ANNUAL

ADMINISTRATION REPORTS

OF

THE FOREST DEPARTMENT

(SOUTHERN AND NORTHERN CIRCLES),

MADRAS PRESIDENCY,

FOR THE

OFFICIAL YEAR

1889-90.

MADRAS:
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1890.

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PROGRESS REPORT

OF

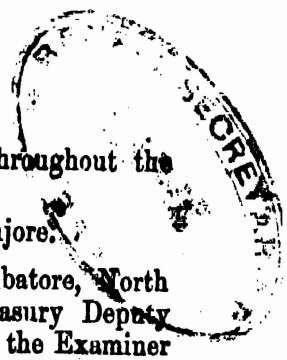
FOREST ADMINISTRATION IN THE SOUTHERN CIRCLE, MADRAS,

FOR THE YEAR 1889-90.

By Colonel I. CAMPBELL WALKER, Staff Corps, Conservator of Forests.

CHAPTER I.

Introductory Remarks.



Mr. A. W. Peet, Acting Conservator, was in charge of the Circle throughout the year, having been relieved on the 28th March 1890.

He visited all the districts in the Circle except Chingleput and Tanjore.

2. The District Forest offices of Chingleput, Salem, North Coimbatore, North Malabar and South Canara were inspected and reported on by Treasury Deputy Collectors; and those of North Arcot, North and South Coimbatore by the Examiner of Forest Accounts.

The examination of Range offices by District Forest Officers was still insufficient owing to press of other work, especially forest settlement.

3. The time spent in camp by District Forest Officers as reported appears to have been sufficient, the average having as usual been a little over half the time in charge.

Several District Forest Officers were tied to head-quarters revising settlement records, and the District Forest Officer, South Malabar, having no Range-officer at Nilambúr was unable to devote sufficient time to inspection of outlying ranges, viz., Pálghat and Amarampalam.

The want of sufficient officers of the controlling staff was much felt. Of the subordinate officers who acted as District Forest Officers during the absence of permanent incumbents, 3 were Sub-Assistant Conservators of the 1st and 2nd grades, 1 a probationary Sub-Assistant and 3 Rangers of the 1st, 2nd and 3rd classes, respectively.

The Government ordered during the year that the Trichinopoly and Tanjore districts should be regarded as one forest division.

CHAPTER II.

AREAS AND BOUNDARIES.

4. *Areas.*—The following table shows the changes in the areas of Government Forest lands:—

ABSTRACT A.—Classes and areas of forests.

Class of forests.	Area on 31st March 1889.	Added during the year 1889-90.	Excluded during the year 1889-90.	Difference.	Area on 31st March 1890.	Source or cause of increase or decrease.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Reserved forests	2,800	119	6	+ 113	(*a*) 2,913	91 square miles transferred from reserved lands; 28 square miles added and 6 square miles deducted owing to rectification of areas.
Reserved lands	5,298	336	113	+ 223	(*b*) 5,521	Added 172 square miles from "other forests"; 46 square miles new areas; 6 square miles added in course of settlement and 112 square miles added in rectification of areas; deducted 91 square miles transferred to reserved forests; 13 square miles excluded during settlement; and 9 square miles deducted by rectification of areas.
Other forests	1,046	98	303	— 205	1,441	New areas added 98 square miles; transferred to reserved lands 172 square miles; deducted by rectification of areas, 131 square miles.
Total ..	9,744	553	422	+ 131	9,875	

(*a*) Includes Tekadi leased forest in South Coimbatore 26 square miles, and 4 blocks of leased forests in South Malabar aggregating 11 square miles.

(*b*) Includes 12 blocks of leased forests in South Malabar, aggregating 18 square miles, proposed to be constituted reserved forests.

The 194 square miles exhibited as "reserved forests under previous rules" in the last annual report having really been areas regarded as *reserved* in view to future notification under the Act, they have been included under "other forests," meaning other than those classed as reserved forests or lands.

5. The question of what further areas of Government waste lands shall be brought under the regular control of the department is receiving attention.

Meanwhile the following abstract in the form adopted by Government showing (*a*) the district areas, (*b*) the areas of lands at the disposal of Government, and (*c*) those of forests under our control will be found useful for reference:—

ABSTRACT B.—District areas and forest reserves in square miles.

District.	Total area excluding feudatory and tributary states as per Board's Procs., dated 26th November 1889, No. 536 (Sett., L. Rds. and Agri.)	Area excluding semindaris and whole inam villages.	Cultivated area.	REMAINDER.			FORESTS UNDER THE CONTROL OF THE FOREST DEPARTMENT.	
				Uncultivated and forest areas.	Area for which returns are not available.	Total of columns 5 and 6.	Reserved forests under Act V of 1882.	Reserved lands.
1	2	3	4	5	6	7	8	9
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Chingleput	2,841	2,051	952	1,099	..	1,099	93	84
North Arcot ..	7,496	3,788	1,259	2,509	..	2,509	377	576
South Arcot ..	5,140	4,860	2,177	2,683	..	2,683	119	430
Salem	7,724	5,581	1,946	3,635	..	3,635	643	541
Trichinopoly ..	3,631	2,684	1,624	780	280	1,060	137	99
Tanjore	3,740	2,485	1,682	803	..	803	9	16
Coimbatore	7,860	7,168	3,691	2,384	1,093	3,477	685	1,848
Madura	8,800	3,190	1,563	1,254	373	1,627	348	215
Tinnevelly	5,391	3,517	2,257	1,260	..	1,260	295	295
Malabar	5,588	5,568	1,330	4,235	..	4,235	157	443
South Canara ..	3,902	3,883	628	3,255	..	3,255	50	974
Total ..	62,113	44,752	19,109	23,897	1,746	25,643	2,913	5,521

District	Forests under the control of the Forest Department—*cont.*			Percentage of column 10 to column 3.	Percentage of column 10 to column 7	Percentage of column 12 to column 3	Percentage of column 12 to column 7
	Total of forest reserves, columns 8 & 9	Unclassed or other forests.	Total of columns 10 and 11.				
	10	11	12	13	14	15	16
	SQ. MLS.	SQ MLS	SQ. MLS				
Chingleput	177	27	204	8 6	16 1	9 9	18 6
North Arcot	953	..	953	25·3	38·0	25 3	38·0
South Arcot	549	519	1,068	11·3	20 5	22·0	39·8
Salem	1,184	322	1,506	21·2	32·6	27 0	41 4
Trichinopoly	236	42	278	8·8	22 3	10·3	26·2
Tanjore	25	41	66	1·0	3·1	2·7	8 2
Coimbatore	2,533	2	2,535	35 3	72·9	35 4	72 9
Madura	563	136	699	17 6	34 6	21 9	43 0
Tinnevelly	590	17	607	16 8	47·0	17·3	48 2
Malabar	600	335	935	10 8	14·2	16·8	22 1
South Canara	1,024	..	1,024	26 4	31·5	26 4	31·4
Total ..	8,434	1,441	9,875	18·8	32 9	22 0	38·5

The net increase in the area of reserved forests and reserved lands amounted to only 113 and 223 square miles respectively, and the total reserves now aggregate 8,434 square miles, which is about 18 per cent. of the district areas, excluding zemindaris and inams, and about 32 per cent. of the "lands at the disposal of Government." The net increase in the total forest area of all classes under our control amounted to only 131 square miles during the year.

6. *Reserved forests.*—The area constituted reserved forests in each district is as follows :—

Abstract C.—Reserved forests in square miles.

District.	Up to 1888-89.	During 1888-89	During 1889-90.	Total.
1	2	3	4	5
Chingleput	87	5	1	93
North Arcot	195	174	8	377
South Arcot	62	32	3 + 22	119
Salem	559	39	45	643
Trichinopoly	44	92	1	137
Tanjore	..	8	1	9
North Coimbatore	99	20	..	119
South Coimbatore	566	..	..	566
Madura	304	23	21	348
Tinnevelly	287	..	8	295
North Malabar	118	..	..	118
South Malabar	39	..	..	39
South Canara	42	5	3	50
Total ..	2,402	398	113	2,913

The total area of "reserved forests" is now 6·5 per cent. of the district area excluding zemindaris and "whole inams." The largest actual additions to this class were made in the districts of Salem and Madura. In other districts the additions were insignificant.

In South Arcot 22 square miles were added on account of recomputation of areas.

The final constitution of reserved forests has proceeded very slowly during the year. This is due to delays in the District and High Courts in the settlement of appeals against Forest Settlement Officers' decisions and in the publication of final notifications under section 16 of the Act.

In addition to the area added for the year sixteen blocks* aggregating 22 square miles were finally notified before its close, but as the date from which reservation takes effect falls within the current year, they are not included in the return of reserved forests for 1889-90.

	No. of blocks.	Area in square miles.
Chingleput	12	13
South Arcot	1	5
Trichinopoly	1	1
Tinnevelly	2	3

7. *Reserved lands under settlement.*—The following table shows the progress of settlement up to the end of the year in blocks and square miles:—

Abstract D.—Forest Settlement.

District.	Under settlement up to 1888-89.		Added during 1888-89.		Added during 1889-90.		Total under settlement.	
	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.
1	2	3	4	5	6	7	8	9
Chingleput	30	113	17	18	32	25	79	156
North Arcot	83	683	2	50	7	125	92	858
South Arcot	70	234 *+ 22	15	49	..	108	85	413
Salem	94 †—1	806*	12	160	3	16*	108	982
Trichinopoly	41	178	33	19	..	..	74	197
Tanjore	20	19	4	..	..	..	24	19
North Coimbatore ..	8	589	2	187	1	103	11	879
South Coimbatore	9	566	1	..	..	..	10	566
Madura	90	488	4	12	..	..	94	500
Tinnevelly	39	589	..	..	..	..	39	589
North Malabar	13	261	..	..	..	..	13	261
South Malabar	16	58	5	241	..	..	21	299
South Canara	21	141	1	3	5	9 *—1	27	152
Total ..	533	4,747	96	739	48	385	677	5,871

District.	Finally settled up to 1888-89.		Finally settled during 1888-89.		Finally settled during 1889-90.		Total finally settled.	
	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.
	10	11	12	13	14	15	16	17
Chingleput	14	87	3	6	3	1	20	93
North Arcot	33	195	5	174	6	8	44	377
South Arcot	14	62	8	32	4	3 + 22	26	119
Salem	62	559	4	39	4	45	70	643
Trichinopoly	21	44	10	92	2	1	33	137
Tanjore	2	..	14	8	1	1	17	9
North Coimbatore	6	99	..	20	..	..	6	119
South Coimbatore	9	566	..	..	1	..	10	566
Madura	71	304	2	23	3	21	76	348
Tinnevelly	5	287	..	..	16	8	21	295
North Malabar	6	118	..	..	..	..	6	118
South Malabar	6	39	..	..	..	..	6	39
South Canara	8	42	5	5	1	3	14	50
Total ..	257	2,402	51	398	41	113	349	2,913

* Due to recomputation of area.
† One block, viz., Yercaud lake, area 22 acres, ordered to be unreserved.

8. The position of the balance still under settlement is shown in the following abstract :—

ABSTRACT E.—State of settlement balance.

District.	Of those notified in 1884-85.		Of those notified in 1885-86.		Of those notified in 1886-87.		Of those notified in 1887-88.		Of those notified in 1888-89.	
	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.
1	2	3	4	5	6	7	8	9	10	11
Chingleput	..	..	..	..	5	9	6	11	16	18
North Arcot	..	..	..	..	..	..	39	396	2	50
South Arcot	..	..	11	164	17	32	16	17	15	81
Salem	9	74	1	16	1	8	13	66	11	159
Trichinopoly	..	..	3	3	7	39	..	..	31	18
Tanjore	..	..	..	..	1	7	2	3	4	..
North Coimbatore ..	..	..	..	..	..	..	2	470	2	187
South Coimbatore ..	..	..	..	..	..	..	..	..	..	..
Madura	..	..	..	..	2	40	12	100	4	12
Tinnevelly	..	..	5	252	..	..	13	42	..	..
North Malabar	3	103	3	40	1	..	..	..	..	..
South Malabar	..	..	..	..	..	..	10	19	5	241
South Canara	..	..	2	35	4	21	1	35	1	2
Total ..	12	177	25	510	38	156	114	1,069	91	768

District.	Of those notified in 1889-90.		Total balance.		Remarks on the balance.					
					Settled and reported on.		Settled but not reported on.		Settlement proceeding.	
	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.	Blocks.	Area.
	12	13	14	15	16	17	18	19	20	21
Chingleput	32	25	59	63	38	44	16	14	5	5
North Arcot	7	125	48	481	40	326	1	30	7	125
South Arcot	..	..	59	294	36	160	8	53	15	81
Salem	3	16	38	339	22	170	13	153	3	16
Trichinopoly	..	..	41	60	40	60	1	..	..	..
Tanjore	..	..	7	10	6	10	..	..	1	..
North Coimbatore ..	1	103	5	760	..	..	4	657	1	103
South Coimbatore ..	..	..	..	..	..	..	..	..	..	..
Madura	..	..	18	152	16	140	2	12	..	..
Tinnevelly	..	..	18	294	18	294	..	..	..	..
North Malabar	..	..	7	143	1	..	6	143	..	..
South Malabar	..	..	15	260	..	..	10	19	5	241
South Canara	5	9	13	102	5	56	4	37	4	9
Total ..	48	278	328	2,958	222	1,260	65	1,118	41	580

The "settled and reported on" balance of 222 blocks with an area of 1,260 square miles (columns 16 and 17) is composed of the following :—

16 blocks of	22	square miles notified under section 16 during the year, but date from which final reservation is to take effect falls within current year.
91 blocks of	428	square miles mostly either with the Board or Government awaiting publication of notifications under section 16.
115 blocks of	810	square miles returned by the Board for revision and remaining either with the District Forest Officer, Collector, or Forest Settlement Officer.
Total ... 222 blocks.	1,260	square miles.

The work remaining to be done in regard to the blocks returned for revision is generally the preparation of clearer maps and the improvement of the boundary descriptions. Of the 65 blocks, embracing an area of 1,118 square miles, "settled but not reported on" (columns 18 and 19), 24 with an area of 197 square miles were awaiting the result of appeals to higher courts against Forest Settlement Officers' decisions.

The submission of notification for most of the remaining blocks "settled but not reported on" (columns 18 and 19) was delayed on account of the sketch-maps and other details now required, which our over-worked District and Range officers find it difficult to supply without the assistance of competent draughtsmen.

Of the blocks in respect of which settlement was proceeding (columns 20 and 21), the settlement of the newly purchased Amarampalam forest in South Malabar was delayed owing to the non-appointment of a Forest Settlement Officer till December 1889. The proclamation under section 6 has since been issued fixing 15th May as the latest date for presentation of claims.

Regarding the four blocks of the proposed reservations in the Attapadi valley, the Forest Settlement Officer, Mr. Castlestuart Stuart, completed the inquiry, and his decisions were awaited at the close of the year. It is apprehended that whatever they may be, there will be appeals to the District and High Courts.

9. Of the two special Forest Settlement Officers (Messrs. A. M. Jones and A. Pinto) attached to this circle, Mr. Jones was, under orders from Government, relieved of forest settlement-work on 27th June 1889. Mr. Pinto retained temporary charge of Mr. Jones' office and issued proclamations under section 6 of the Forest Act for eight blocks measuring 91 square miles, and proclaimed final notifications for six blocks of 50 square miles which have been included in the following outturn of work by Mr. Pinto. Mr. W. C. McMurray, Deputy Collector, was appointed Forest Settlement Officer in the place of Mr. Jones, but he only joined this department on the 28th February 1890. Thus the services of one of the two special officers were lost to the Circle for a period of eight months. These changes also interfered with the due progress of settlement. The work performed by the special officers during the year was as follows :—

ABSTRACT F.—Outturn of work by Special Forest Settlement officers.

—	Issue of proclamation after notification under section 4.		Settlement of claims.		Report after settlement submitted.		Final notification proclaimed.		Cost.
	Blocks.	Area in square miles.	Blocks.	Area in square miles.	Blocks.	Area in square miles.	Blocks.	Area in square miles.	
1	2	3	4	5	6	7	8	9	10
									Rs.
Mr. Pinto	42	304	36	599	32	45	46	104	13,271
,, Jones	..	..	6	106	30	29	5	5	3,795
Total outturn of work during 1889-90	42	304	42	705	62	74	51	109	17,066
Outturn during 1888-89 ..	90	495	149	557	159	734	46	393	22,766
Difference for the year under report.	..	— 191	..	+ 148	..	— 660	..	— 284	— 5,700
Percentage of do. ..	..	— 39	..	+ 26	..	— 90	..	— 72	— 25

It will be observed that there is a slight increase in the area in respect to which claims were settled and a decrease in the total cost which, however, is mainly due to there being only one Forest Settlement Officer during eight months of the year. The delay in submission of final reports and in the issue of final notifications under section 16 of the Act is very marked and most unsatisfactory, but is apparently due to circumstances over which the Forest Settlement Officers had little or no control.

The total cost of forest settlement during the year amounted to Rs. 18,307, which includes Rs. 660 expended by Mr. McMurray in March 1890, and Rs. 581, being the pay of a Forest Settlement clerk in Malabar employed under Mr. Castlestuart Stuart.

The total cost since the commencement of settlement up to the end of the year under report has amounted to Rs. 1,48,201.

The total area of reserved forests as per Abstract C is 2,913 square miles, and by adding 1,260 square miles (column 17, Abstract E) "settled and reported on" on 31st March 1890, we have 4,173 square miles. Each square mile settled has thus cost on an average a little over Rs. 35.

10. *Reserved lands not under settlement in square miles.*—The following table shows (*a*) additions to the area of reserved lands, (*b*) areas transferred for settlement as reserved forests, and (*c*) the balance remaining as reserved lands :—

ABSTRACT G.—Reserved lands not under settlement in square miles.

District.	Up to 1888-89.	Added during 1888-89.	Added during 1889-90.	Total.	Transferred for settlement. Up to 1888-89.	Transferred for settlement. During 1888-89.	Transferred for settlement. During 1889-90.	Total.	Balance remaining as reserved lands.
1	2	3	4	5	6	7	8	9	10
Chingleput	137	16	24	177	113	18	25	156	21
North Arcot	861	50	42	953	683	50	125	858	95
South Arcot	234	49	(*a*) 244	549	234	49	108	413	136
	(*b*)+ 22	..	..	..	(*b*)+ 22	..	..	..	..
Salem	1,010	158	16	1,184	806	160	16	982	202
Trichinopoly	234	2	..	236	178	19	..	197	39
Tanjore	19	6	..	25	19	..	..	19	6
North Coimbatore	1,952	..	(*b*)— 3	1,949	589	187	103	879	1,070
South Coimbatore	584	..	..	584	566	..	..	566	18
Madura	563	..	..	563	488	12	..	500	63
Tinnevelly	591	— 1	..	590	589	..	..	589	1
North Malabar	281	..	(*c*)— 8	273	261	..	..	261	12
South Malabar	86	241	..	327	58	241	..	299	28
South Canara	1,020	6	(*b*)— 1	1,024	141	3	8	152	872
Total ..	7,694	526	314	8,434	4,747	739	385	5,871	2,563

(*a*) Of this area 108 square miles represent addition by rectification of areas notified in previous years.
(*b*) Due to recomputation of area.
(*c*) Unreserved after settlement.

The area, viz., 314 square miles, added to reserved lands during the year, consists of 136 square miles in South Arcot, constituted under the rules under section 26 of the Act, 82 square miles in Chingleput, North Arcot and Salem, notified for settlement under section 4, and 96 square miles added by recomputation of areas, &c.

Of the 385 square miles transferred for settlement during the year, 83 in North Arcot, 103 in North Coimbatore and 8 in South Canara, aggregating 194 square miles in all, were from areas of reserved lands constituted in previous years; 82 square miles represent new areas notified under section 4 during the year and 109 square miles is the addition by recomputation of areas brought to account in previous years.

The area of reserved lands was 2,563 square miles at the close of the year.

The unclassed forests, as far as they were recorded, showed a balance of 1,441 square miles on 31st March 1890.

There is thus ample scope for further constitution of reserved forests, if only settlement can be pushed on more rapidly than it has been hitherto.

11. *Boundaries.*—The following lengths are reported to have been taken in hand for demarcation :—

—	Miles.	Cost.	Average.
1	2	3	4
		Rs.	Rs. A. P.
Up to 1888-89	6,013	55,595	9 4 0
During 1888-89	1,572	16,191	10 5 0
Do. 1889-90	1,290	13,297	10 5 0
Total ..	8,875	85,083	9 9 0

The largest expenditure on demarcation during the year, viz., Rs. 3,790, was in Salem where line-clearing of certain reserved forests and reserved lands under settlement was specially taken in hand so as to have their boundaries ready for survey by the Government of India Party. The clearing alone cost Rs. 7 per mile on an average.

Notices under the Boundaries Act were served on the owners of four private forests, of whom two completely cleared their boundaries and one did so partially. The poligar of Ariagounden Nad had not begun work up to the close of the year.

In *South Arcot*, the eastern boundary of the Jadayagounden Polliem (Kalarayen slopes) which is contiguous to the Tekarai and Kanai reserved lands under settlement in the Kallakurchi taluk was cleared to a length of 12 miles and to a width of 4 to 5 yards, at a cost of Rs. 139-6-0 recoverable from the poligar, as he failed to comply with a notice to clear lines issued to him under the Boundaries Act.

In *North Coimbatore*, 275 miles of preliminary demarcation 6 feet wide and 122 miles of permanent demarcation 12 feet wide were cleared and 932 cairns erected. The expenditure amounted to Rs. 3,106. The work in this division is reported to be unsatisfactory and the cost high. It is evident that Range officers have seriously neglected the work. The matter will receive attention during the Conservator's next tour in the division; meantime, the District Forest Officer promises to attend to the work personally.

In *Chingleput*, fair progress has been made, and Rs. 1,729 expended. The average cost per mile, Rs. 22½, appears high and exceeds that of the previous year. The District Forest Officer explains that it is due to re-clearance of boundary lines wrongly cut in previous years. Preliminary demarcation in this district was carried out by planting palmyra posts 10′ × 6″ × 3″ costing As. 6 each including all expenses. This is stated to have been required by the Forest Settlement Officer, but is clearly unnecessary in all cases and very expensive as the posts will have to be replaced by more permanent boundary marks when the areas are finally constituted reserved forests.

In *Tinnevelly*, Rs. 1,062 were expended in clearing 123 miles, the average cost being Rs. 8½ per mile, which is moderate, considering the remarks of the Deputy Superintendent of the Government of India Survey, that the arrangements were very good and little or no difficulty was experienced in survey.

In *Madura*, the southern boundary of Erasakanayakanur zemindari was completely and correctly marked out (by means of temporary pillars) in accordance with the decree of the District Court. The zemindarni was duly informed of this fact by the District Forest Officer and her acceptance of the line sought, but no reply was received from her up to the close of the year. If difficulties are raised a Special Commissioner will have to be appointed to go over the work again. The Ayakudi boundary requires to be corrected in certain parts by the Survey Department.

In *North Malabar*, the demarcation of 13 blocks of the Kudrakote reserved forest is not complete. 9½ miles of boundary line have been cut and cleared to a width of 18 feet and 21 miles of line to a width of 6 feet and substantial cairns have been erected. The difficulty of procuring labor and the illness of Range officers retarded further progress.

In *South Malabar*, no further attempt at the preliminary demarcation on the slopes of the ghâts in the newly purchased Amarampalam forest was made during the year for want of a suitable and special ranger to conduct work. The demarcation of certain portion of the Chenat Nair reserved forest in Pálghat range was resumed at the close of the year, but only 3 out of the remaining 17 miles were cleared. The locality is very feverish, and it is with difficulty that laborers can be induced to work there; but greater progress should have been made by an energetic Range officer and, doubtless, would have been, had the District Forest Officer not been tied to Nilambúr and unable to spend sufficient time in the Pálghat range.

CHAPTER III.

Surveys and Working Plans.

12. Surveys have cost Rs. 75,168 during the year, *i.e.*, Rs. 69,085 for the Survey of India Party and Rs. 6,083 for departmental surveys. The excess expenditure (Rs. 17,565) over budget provision has been met by transfers from other heads.

The total outturn of work by the Government of India Survey Party during the season 1889-90 amounted to 1,182 square miles of (*a*) triangulation, 628 linear miles of (*b*) traversing, and 211 square miles of (*c*) topography.

	(*a*)	(*b*)	(*c*)
Salem	710	288	...
Madura	472	150	78
Tinnevelly	...	190	133

The details are given in the Deputy Superintendent's précis of his Annual Report printed with Revenue Board's Proceedings of 10th May 1890, Forest No. 263.

The short outturn of work is much to be regretted, but the Deputy Superintendent attributes it chiefly to causes beyond control.

The approximate area topographically surveyed on the 4-inch scale during the past two years is only 480 square miles, and the actual cost Rs. 1,08,422 or about Rs. 226 per square mile; but, of course, there are the triangulations and traversing in advance to be taken into account. It is hoped, however, that when the party is properly organized, the cost per square mile may not exceed the limit of Rs. 70 referred to in "Note on forest surveys" printed with G.O., dated 8th August 1888, No. 545, and that the annual outturn of work may come up to the Deputy Superintendent's estimate of 600 square miles.

In *Salem*, a temporary surveyor was employed by the department for 7 months. He surveyed a portion of Maharajagadai reserved land and the compartment lines of two other reserves, but his services were chiefly utilized in preparing sketch-maps, &c.

In *Madura*, clearing of lines for survey purposes was carried on on an extensive scale at a cost of Rs. 3,049. The lines embraced 18 reserved forests with an area of 172 square miles, but the District Forest Officer does not report the mileage cleared or its breadth.

In *Tinnevelly*, an expenditure of Rs. 1,550 was incurred in clearing interior lines and pathways for survey.

In *South Canara*, a temporary surveyor was at work during the whole year and surveyed an area of 75 square miles at a cost of Rs. 972, besides preparing original sketches and plotting of the surveys made. He also made copies for photo-zincography of four small blocks and of one large one embracing 34 square miles; but they have not been received in this office.

The areas reported as surveyed departmentally up to the end of the year are as follows:—

—	Square miles.	Cost.	Remarks.
1	2	3	4
		Rs.	
Up to 1888-89	1,279	11,978	
During 1888-89	170	5,861	
Do. 1889-90	75	6083*	* Includes Rs. 4,599 expended on line-clearing for survey by the Government of India.
Total ..	1,524	23,922	

The Madras Survey Department took up the survey of the Kodaikánal settlement in Madura and marked out the boundaries of private holdings permanently. Various disputes arose with regard to lands adjoining the Government Kodaikánal shola, the decision of which devolved on the Deputy Superintendent of Survey. His decisions were not communicated to this department till the close of the year, notwithstanding several reminders sent to him on the subject by the District Forest Officer.

13. *Working plans.*—In accordance with Board's Proceedings of 8th January 1890, Forest No. 11, District Forest Officers have been directed to collect the necessary statistics for future working plans with the assistance of Taluk Revenue Officers.

It is intended to submit revised working plans for the Chinnar and Nóyil-Vellingiri working circles in the Bolampatti range of South Coimbatore in lieu of those submitted to Government in 1887-88, which were based on insufficient data as to the number and dimensions of trees and prospects of natural reproduction and sustained yield. The working "scheme" for the Sholakarai block in the same division also requires slight revision mainly to provide a separate rotation for the bamboo series and make provision for improvement fellings. The working plan for this block has, on the whole, proved reliable, and the estimates framed of the annual yield both in material and value have been exceeded.

The working plan for the Tekadi forest on the Anamalais, which was drafted three years ago and under which preliminary fellings have since taken place, will be revised so as to provide better both for a sustained yield from existing stock and assisting the reproduction of the better classes of trees. Mr. Peet writes: "The result of the system of pure Jardinage as applied to a teak forest is almost certain to be a diminution of the stock of superior trees, for teak in particular has no chance unless it has abundance of light, and unless special efforts are made to ensure this, it is almost certain to be crowded out by the inferior growths." The working plan of the Wáláyar reserve in South Malabar, received from the District Forest Officer, was examined by the Acting Conservator and found to be faulty. It will be revised during the current year.

Mr. Porter appears to have drawn up a working plan for some of the forests in the Polláchi No. 2 Range, but it has not yet been received by the Conservator.

In *Chingleput*, the District Forest Officer found the working plan which he had completed in the previous year for the Kambakam reserve defective in many respects, and has not therefore submitted it for approval. Little progress has been made with regard to working plans for Ambakam and Meyur.

In *North Arcot*, felling was commenced in Compartment No. 2 (39·9 acres) Virinjipuram, of the plantation working circle, but not completed during the year. The outturn up to the close of the year was 225 tons of billet wood and 20 tons of branch wood. The District Forest Officer's estimate of yield is 1,000 tons (which he expects will be realized) as against 1,200 tons according to the working plan. The block was planted in 1872 and the planting rendered irregular owing to numerous casualties during the several dry seasons. According to working scheme, Compartment No. 8 (41·9 acres) of Tiruvallam should have been felled in 1888-89, but as a large number of trees which were dying out in Compartments Nos. 6 and 7 had to be removed and brought to market, the felling of Compartment No. 8 was only taken in hand late and completed during 1889-90. The outturn of wood amounted to 600 tons.

In *Salem*, statistics were being collected to form a working circle for railway fuel supplies, &c. The outturn from 6,079 selected trees over 700 acres was 79,039 cubic feet, or 1,162 tons of stacked billets.

In *Trichinopoly*, the sanctioned working plan of the Cauvery line plantations was adhered to.

In *Madura*, the provisions of the working plans proposed by the District Forest Officer, Mr. Gass, both for Alagarmalai and Gunden Shola, were carried out during the year in anticipation of their submission and sanction.

CHAPTER IV.

PROTECTION AND IMPROVEMENT.

(a) *Establishment, Ranges and Beats.*

14. *Establishment.*—The establishment for the Circle consisted of—

—	For the year 1888-89.	For the year 1889-90.	Difference.
Permanent.			
Conservators	1	1	..
Deputy Conservators	7	8	+ 1
Assistant Conservators	6	5	— 1
Sub-Assistant Conservators	7	7	..
Rangers	33	33	..
Foresters	77	77	..
Forest Guards	396	396	..
Clerks	88	88	..
Peons	108	108	..
Temporary.			
Supervisors	59	61	+ 2
Surveyors	7	2	— 5
Draughtsmen	2	1	— 1
Depôt-keepers	11	10	— 1
Watchers	779	852	+ 73
Tannahdars	302	289	— 13
Lascars	23	7	— 16
Gardeners	73	78	+ 5
Clerks	9	9	..
Peons	18	18	..
Total ..	2,006	2,050	+ 44

The new scale for permanent subordinate establishments referred to in the last annual report as being pending with Government was not approved. Revised proposals are under preparation and will be shortly submitted under which sanction will be sought for the entertainment of an establishment more in accordance with present requirements, *i.e.*, for the adequate protection of about 10,000 square miles of reserved forest and the collection of a revenue of about 10 lakhs of rupees. The numerical weakness of the executive and protective staff has been repeatedly acknowledged by the Local Government and the Government of India; and now that the revenue has sufficiently increased it is hoped that a considerable augmentation may be sanctioned.

The Board of Revenue at the instance of Government lately deprecated any increase in the number of reserve watchers chargeable to A-VIII (*f*) and a slight increase in numbers which was indispensable had to be met by a reduction in the numbers of tannahdars and by a reduction in the pay of watchers so as to increase their numbers without extra cost. The result of inadequate protection will be referred to in the next section of this report.

The number of ranges remained the same as in the previous year, viz., 69. More than one half have been in charge of underpaid Foresters and in some instances even of Forest Guards. The average area of a range charge embraces 900 square miles of country of which 143 square miles is actual forest under the direct control of the department. The average area of a Forest Guard's beat may be reckoned at 157 square miles of country with 25 square miles of forest area under control. The strength of the superior staff is equally weak and as the Board and Government are aware Forest Rangers had in some instances to be appointed to act as District Forest Officers. If the annual increase in revenue is to continue, and real and efficient protection and improvement of the forests to be secured, the staff of controlling, executive, and protective officers must be considerably augmented at an early date.

(b) *General Protection and Breaches of Forest Laws.*

15. General protection of forests has not been adequate as may be inferred from the following figures and notes relating to breaches of the Forest Laws.

District or Division.	Brought forward from previous year.	Added during the year.	Cases disposed of during the year.								Balance remaining undisposed of at the close of the year.
	Number of cases.	Number of cases.	Number of cases disposed of.	Number of persons concerned.	Percentage of cases withdrawn to the total number disposed of.	Percentage of cases compounded to the total number disposed of.	Amount of compensation realised.	Percentage of cases disposed of by the magistracy to the total number disposed of.	Percentage of cases in which conviction was secured to the total number disposed of by the magistracy.	Percentage of cases acquitted to the total number disposed of by the magistracy.	Number of cases.
1	2	3	4	5	6	7	8	9	10	11	12
							Rs.				
Chingleput ..	..	92	92	206	..	2	15	98	57	43	..
North Arcot ..	5	255	253	590	..	59	1,735	41	36	64	7
South Arcot ..	50	430	375	1,035	12	59	2,702	30	77	23	105
Salem	60	470	501	1,911	9	18	850	74	77	23	29
Trichinopoly ..	41	646	609	1,165	..	80	1,844	20	74	26	78
Tanjore	9	51	56	118	..	41	77	59	70	30	4
North Coimbatore.	..	37	30	89	3	33	244	63	68	32	7
South Coimbatore	3	107	98	341	4	76	617	20	80	20	12
Madura	13	28	41	149	..	..	..	100	59	41	..
Tinnevelly ..	5	81	81	211	..	..	..	100	58	42	5
North Malabar ..	2	48	50	171	..	60	427	40	65	35	..
South Malabar ..	..	23	21	41	..	..	..	100	95	5	2
South Canara ..	19	411	361	484	..	28	151	71	78	22	69
Total for 1889-90.	207	2,679	2,568	6,461	4	46	8,662	50	70	30	318
Do. 1888-89.	173	2,201	2,167	5,557	4	41	4,915	55	72	28	207
Difference for the year under report	+ 34	+ 478	+401	+ 904	..	+ 5	+3,747	— 5	— 2	+ 2	+ 111

The number of new cases shows an increase of 22 per cent. over that of the preceding year. The offences of unauthorized felling of wood and grazing without permission increased by 21 per cent. and 41 per cent., respectively. There was also an increase of 5 per cent. under "other offences." The increase occurr' in the districts of Chingleput, North Arcot, South Arcot, Coimbatore and South Canara.

Unless general protection is rendered more effectual, which is impossible with the present inadequate and underpaid staff, no reduction in the number of forest offences can be expected. Unauthorized cultivation of reserved lands is of frequent occurrence and we can scarcely blame the people in the absence of sufficient protective establishments. A case recently occurred in the Saidápet taluk of the Chingleput district in which 68 men were prosecuted and fined one rupee each for erecting huts without permission inside a "reserved land." There are 18 reserves in the taluk in charge of but one Forest Guard and 4 watchers. This gives 18 blocks to one Guard and 4 or 5 blocks to each watcher to supervise. The blocks are 4 or 5 miles apart. Under such circumstances, protection is out of the question.

The Collector of Chingleput (Mr. M. Hammick) says: "It is quite clear that the protective staff of the Saidápet taluk is insufficient.

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"The forests in Saidápet are of course peculiarly situated and I imagine if there is to be any protection worth the name, the staff must be very much strengthened and

constituted on a scale which would seem extraordinarily large when compared with the protective staff of other districts. The jungles are so small and scattered and the thieves so numerous and the village establishments so very bad."

Protection is notoriously inadequate in other respects and localities. For instance, smuggling of timber in the Kollegál and Satyamangalam taluks of the North Coimbatore division is reported to be very common. Forests have been set on fire everywhere by native shikaris and persons searching for deer horns. Demarcation posts and pillars have been systematically injured and removed. There has also been shooting, netting, and trapping game without licenses, whilst rivers have been poisoned and dynamited and the fish destroyed wholesale. The District Forest Officer (Mr. Morgan) personally came in contact with a gang of about 1,000 people shooting and hunting in the eastern slopes of Nílgiris reserved forest and the Tallamalai block without licenses. They had killed a very large number of deer, pea-fowl and hares. Mr. Morgan was only able to secure the prosecution of about 20 men. He also personally caught 22 men netting spotted deer in the eastern slopes reserved forests on the banks of the Bhavání without permission. Eight soldiers camped for a month near Vellamundi reserved forest and shot there without licenses, but were not interfered with. In short the law has been not unfrequently openly set at defiance. The numerical weakness of our executive and protective staff is chiefly responsible for such a state of things.

In Salem only 19 shooting licenses were issued though many hundreds of people doubtless shoot. It has been arranged to affix a slip to all gun licenses issued informing the holders that a license from the Forest Department is required if they wish to shoot in reserved areas. A similar plan might with advantage be adopted in other districts.

There was an increase of 19 per cent. in the number of cases disposed of during the year. The number of cases prosecuted before magistrates decreased by 5 per cent., the number compounded by Forest Officers exhibiting a proportionate increase.

The compensation realized shows an average of Rs. 7-4-9 per case and Rs. 3-2-5 per person accused as against Rs. 5-7-8 and Rs. 2-2-8, respectively, last year. The increase is chiefly due to larger amounts of compensation having been levied in a few important cases of setting fire to reserved forests, felling of reserved trees without permit, &c.; *e.g*, in a case of the latter class in which a village monigar in North Arcot was the offender, a heavy deterrent punishment was considered desirable and Rs. 200 was levied from him as compensation. The largest number of forest offences appear to have occurred in Trichinopoly where there were no less than 646, of which 591 were for unauthorized felling, &c.; 488 cases in which 920 persons were concerned were compounded. The fewest offences are reported from South Malabar where out of a total of 23 cases, all brought before the magistracy, convictions were obtained in twenty. On the whole and of course with exceptions due to local circumstances, &c., the Conservator is inclined to think that the fewer prosecutions the better the protection; but of course there are notable exceptions, *e.g.*, in North Coimbatore for last year, where, if half the forest offences had been reported the numbers would have been thousands instead of 37 !

District Forest Officers naturally prefer compounding to prosecution before a magistrate which entails the presence of the Range officers and Forest Guards in court sometimes for several days to the detriment of their forest duties.

Offenders also as a rule appear to prefer to compound as it saves them legal expenses and the trouble of attending court.

The orders of Government on the subject have, however, evidently been borne in mind during the year. 1,187 cases in all were compounded and 92 withdrawn by District Forest Officers. Convictions were secured in 70 per cent. of the cases brought before the magistracy which is less by 2 per cent. than in 1888-89.

Sub-Magistrates now frequently require corroborative evidence to support that of a Forest Guard or watcher. This is doubtless only reasonable, but on the other hand very difficult to comply with in the case of offences committed and detected in the forests in which the Forest Guards occupy an analogous position to that of a Police

constable on beat. A case of alleged theft of sandalwood from the Pachamalais in Trichinopoly was dismissed for want of evidence to prove that the offender was caught in the act of felling.

It might be well to invite the attention of the magistracy to section 56 of the Forest Act which provides that in case of doubt with regard to ownership of forest produce it shall be presumed to be the property of Government until the contrary is proved. This provision appears to be generally overlooked. The punishments awarded on conviction appear as a rule to have been sufficient, at least there are no complaints on this score in the district reports. There is still complaint on the part of some District Forest-officers of vexatious delays in disposing of forest cases and the District Magistrate, Coimbatore, has called the attention of the Subordinate Magistracy to the fact. During the year Rs. 1,497 was awarded by Magistrates as compensation to the department for damage sustained and credited to forest revenue.

(c) *Forest Fires and Fire Protection.*

16. The actual expenditure on fire protection amounted to Rs. 20,194 which was within Rs. 5,000 of the allotment for the year in the revised budget.

The remarks in paragraph 16 of the annual report for 1888-89 in regard to forest fires and record maps still hold good.

The following is an abstract of results :—

Abstract I.—Fire-protection in square miles.

—	Up to 1888-89.		During 1888-89.			During 1889-90.			Total cost per square mile.
	Forest reserves attempted.	Total cost per square mile.	Attempted.	Percentage which escaped.	Average cost per square mile.	Attempted.	Percentage which escaped.	Average cost per square mile.	
1	2	3	4	5	6	7	8	9	10
		Rs.			Rs.			Rs.	Rs.
Fire traced ..	1,250	66	1,502	97	13	1,910	99	10	63
Untraced ..	6,305	..	6,596	69	..	6,524	70	..	..
Total reserve ..	7,555	..	8,098	..	..	8,434	..	..	..

408 square miles were added during the year to the firetraced area as against 252 square miles so added during 1888-89. The principal additions were in North Arcot, South Arcot, Tinnevelly and South Malabar. The average cost per square mile was Rs. 10 as against Rs. 13 in the previous year. The reduction in cost occurred in all districts excepting South Arcot, Trichinopoly and South Canara.

The rates vary from Rs. 2 in North Arcot to Rs. 51 in South Canara. The cost in South Canara appears abnormally high, and must form subject for inquiry. It is partly attributed by the District Forest Officer to the irregular shape of the blocks, the perimeter being consequently of great length in proportion to the area.

The percentage of success was 99 as against 97 in 1888-89. The increase is mainly due to the successful protection effected during the year in North Malabar with the co-operation of the Mysore Forest Officers in fire-tracing the frontier lines. The early rains helped a great deal. In South Coimbatore also there were heavy rains in December and January which helped to render fire protection easy and successful. No large fires occurred in any of the protected areas in the Circle. The proportion of area actually protected compared with that attempted was highest in Chingleput, North Malabar and South Coimbatore. In Chingleput only 2 acres are reported to have been burnt out of 23,296 attempted. In North Malabar there appear to have been no fires at all in the specially protected areas, and in South Coimbatore only 15 acres were burnt out of 47,182 attempted. Protection was least successful in North and South Arcot, Madura and Tinnevelly, but the Conservator has doubts as to the reliability of some of the returns and can scarcely believe that nearly 545,000 acres were successfully protected in North Arcot where both the fire lines and protective establishments are notoriously inadequate.

There were twelve fires in *North Arcot*, and seven in *South Arcot*, the area burnt being 3,151 and 1,323 acres, respectively. The fires in South Arcot are said to be chiefly due to the unusual dry season owing to the failure of the north-east monsoon, but the Conservator is inclined to attribute them to want of timely precautions.

In *Salem* also several small fires occurred in protected areas and are attributed to the early commencement of the dry season which found the Range officers unprepared. In some cases fires in the reserves adjoining the railway were clearly caused by sparks from locomotives. In view to minimising such danger in future the Conservator is in communication with the Consulting Engineer for Railways regarding the use of spark catchers and cutting or burning off the grass within the railway fences before the commencement of the fire season. The system of fire-tracing in Salem, especially along the line of railway, is insufficient and Mr. Hooper's special attention has been drawn to the necessity for improving it.

In *North Coimbatore* fire protection has been most backward and the repeated instructions of the Conservator have been neglected. Only 4 square miles were attempted during the year, while the total area of reserved forests alone is 119 square miles.

In *Madura* the year was exceptionally bad for fires and results would have been very unfavorable but for the heavy rains subsequent to January, *i.e.*, after some months of severe drought. Fire protection did not apparently receive sufficiently early and careful attention on the part of Range officers and subordinates. Of the thirteen fires which occurred in specially protected areas, one was caused by negligence in fire-tracing, two spread from Travancore into our forests, one came from Ammayanáyakanúr zemindari, four were apparently due to incendiarism, and five could not be accounted for. The largest fire was in Pambar reserved forest, but no great damage occurred as the fire confined itself for the most part to the rocky ground and bare grass land above the zig-zags on the ghât road.

In *Tinnevelly* fires occurred in three blocks in two of which the parties charged with the offence of setting fire were acquitted apparently from want of direct evidence to prove the commission of the offence.

In *South Malabar* a fire broke out in the Wálayár reserve in the Pálghat Range and burnt about 217 acres before it could be extinguished. It was supposed to have been the work of a late watcher, but the Ranger and the Police could not bring home the offence to him or any other person. All the coupes felled during the 3 years preceding the year under report suffered more or less, but the coupe felled in 1888-89 in which coppice shoots were only about a year old must have suffered most severely. The occurrence of this fire and the considerable area over which it extended was most disastrous and discreditable to the protective staff.

That the season was on the whole favorable for fire protection may be gathered from the fact that out of an area of 6,524 square miles of *unprotected* forests, 70 per cent. or 4,566 square miles approximately were unburnt.

On the whole, whilst we cannot complain of efforts under which 99 per cent. of the specially protected area has been saved from fire at the average cost of Rs. 10 per square mile for the year, there is room for more systematic, early, and thorough measures in this most important matter and the areas under protection especially in Coimbatore and Salem should be steadily increased.

(d) *Grazing.*

17. There was no change during the year in the policy laid down by Government in regard to grazing; the sanctioned maximum rates were not levied except in a few cases and especially in respect of foreign cattle. Generally half, quarter, and even lower rates were levied, the object being to secure the control over admission of cattle into forest reserves and at the same time to collect a small revenue mainly to cover the cost of such control without pressing hard on the people.

This fact can be gleaned from the figures in the following table.

Abstract J—Grazing and grass collections.

Items.	During 1888-89.			During 1889-90.		
	Number of cattle.	Amount of revenue.	Average rate per head of cattle.	Number of cattle.	Amount of revenue.	Average rate per head of cattle.
1	2	3	4	5	6	7
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
By grazing per head	331,080	48,366	0 2 4	484,541	60,720	0 2 0
By grazing contracts and sale of grass.	..	4,030	..	..	3,655	..
Total ..	331,080	52,396	..	484,541	64,375	..

The reduction of 4 pies in the average rate is due to very low annual rates of 2 annas per buffalo, 1 anna per cow or bullock, and 3 pies per sheep, levied in Salem and some other districts.

There was no abnormal increase in any district. North Coimbatore as usual collected the largest amount in the Circle, Rs. 23,091. Free grazing was also continued in this division as stated in the last annual report. Nevertheless at least 30 per cent. of village cattle not specially exempted from payment have grazed illicitly and without payment. Salem comes next with a revenue of Rs. 12,016. Free grazing was allowed in this district at this rate of 2 head of cattle per acre of land held as enclosure within a forest reserve. South Coimbatore stands third with Rs. 10,341 ; Chingleput, North Arcot, South Arcot, Trichinopoly and Madura, collected sums ranging between Rs. 2,000 to Rs. 4,500. In North Arcot and Tinnevelly fees were levied for grazing in reserved forests only. In other districts reserved lands were also more or less included in that category, the unclassed forests being under no restriction whatever as to grazing. In Trichinopoly the right of grazing in the Cauvery and Coleroon padugais and plantations was leased out for Rs. 3,222. It is presumed that recently felled coupes were excluded from the lease and cattle rigidly excluded from them. The free cutting and removal of grass was permitted and encouraged wherever possible.

In the matter of sheep and goat grazing the Board of Revenue directed certain specific information being furnished in the form prescribed in its Proceedings, dated 10th March 1890, Forest No. 137; but in view of the remarks of Government in its order, dated 7th May 1890, No. 314, the Conservator has not furnished a consolidated statement of the nature called for by the Board along with the present annual report. The District officers report the total area of waste lands roughly at about 19,500 square miles, the area under no restriction as to grazing at 14,000 and the area in which fees are charged at 5,500 square miles from the bulk of which goats but not sheep are excluded. The Conservator would, however, remark with reference to the Government order above quoted that so far as his experience goes the smooth-haired long-legged sheep known as "shembliadu" in Tamil is almost as much a browser and does as much harm as the goat. He is in fact probably a hybrid or mongrel between a sheep and a goat.

Regarding the hay-making experiment in North Arcot referred to in the last annual report, the Acting District Forest Officer (Mr. Carroll) writes that the attempts made departmentally last year under the Collector's orders did not prove successful, the ryots considering the hay which was given gratis unfit for fodder as their cattle did not readily take to it. It was probably, as remarked by the Collector, inferior grass and not properly treated. A subsequent attempt under which the ryots themselves were permitted to cut the grass and convert it into hay proved more successful. The District Forest Officer states that there was a great demand for it and that the people are willing to continue the experiment which they will be encouraged to do. At the instance of the Commissary-General, Madras, an attempt was made to convert the grass obtainable in some of the reserves in the Walajah range into hay and the work was entrusted to the Range officer. The result was not encouraging, one ton of the hay sent to the Commissariat at St. Thomas' Mount having been unfavorably

reported on. The Range officer (a young and inexperienced Forester) was probably quite ignorant of hay making and the ordinary grasses in the Walajah range are possibly unsuitable for the purpose.

The Conservator is strongly of opinion that much good may be done by encouraging the people to cut and remove the grass under proper supervision and either make hay or ensilage and that no efforts in this direction should be spared. Example is better than precept, and in each district a commencement should be made *on a small scale* by cutting, drying and stacking good grass and allowing neighbouring ryots to use it either gratis or on a nominal payment; neither the people nor the cattle can be expected to change their habits and customs all at once, but much may be done by personal influence and advice on the part of District Forest Officers and Range officers and if we can only provide good sweet hay or ensilage there is no doubt the cattle will eat it readily and thrive on it better than on scanty grazing, whilst the forests will not be overrun by thousands of cattle and hundreds of herdsmen.

On another point connected with grazing the Conservator holds strong views, viz., that no arbitrary rate or tax should be fixed but that when pasturage can be permitted in reserved forests or lands it should be offered for sale, the numbers being limited and the neighbouring cultivators having first choice. If they require it they will readily pay a fair price for it; if they do not some one else will. There will be no compulsory fees and therefore no good ground for complaint, the grazing on unreserved lands being free to all. At present the people are not convinced that we really wish to discourage grazing in reserved forests both in the interests of the forests and the agriculture of the country. They are rather inclined to think we merely wish to make a revenue out of the grazing fees, ignoring the fact that even the maximum rates would scarcely, if ever, compensate for the damage done. They also complain that our reservations are not final and that areas which they were promised should be left unreserved a year or two ago are now notified for reservation. There is some force in this complaint which will, however, gradually disappear when our selections really are complete and the people see that we offer pasturage wherever it is not entirely incompatible with the welfare and proper treatment of the forests.

(c) *Natural Reproduction.*

18. The following notes have been abstracted from the district reports :—

In *Chingleput* the marked improvement in certain reserves in the Tiruvallúr and Chingleput ranges is attributed mainly to the protection from fire during the last 4 or 5 years, closure against grazing, and the durable existence of moisture in those reserves.

The coppice growth in the portion of the Kambakkam forest in the plains which is protected from grazing is also promising, but reproduction from seed attempted during the previous year has not been successful. The babul seeds sown in the fenced portions of the Pulrambakam reserve germinated but were withering from drought.

In *North Arcot* the reproduction of red-sanders (*Pterocarpus santalinus*) and satinwood (*Chloroxylon Swietenia*) is fair in the Napier and Mámandúr reserves (the former under special fire protection since 1880 and the latter since 1874) but is not uniform, owing to the seeding trees of the above species not being evenly distributed. Hence the seedlings are to be found only in patches.

The acha (*Hardwickia binata*) and namai (*Anogeissus latifolia*) in the Chamala reserve under fire protection since 1880 reproduce well from seed but the growth varies according to the nature of the soil. As a rule the above trees are to be found growing together.

In Panapauk and Puduputlabail reserves under protection since 1880, the Acting District Forest Officer reports that *Albizzia stipulata* (probably *amara*) reproduces well from seed; in fact much better than any other kind in those forests.

In the reserves on the Javadis sandalwood (*Santalum album*) seedlings of different ages are to be seen. They grow very luxuriantly under bamboo shade.

Reproduction in open or unprotected forests is not at all encouraging.

In *South Arcot* natural reproduction is on the whole reported to be unsatisfactory owing to want of an adequate staff of watchers to ensure the control of cattle grazing in the reserves.

In *Salem* the stool shoots in three sample acres of Maharajagudai reserve are not thriving and reproduction has been unsatisfactory, apparently because insects damaged the young shoots.

In *Tanjore* the soil in the Tachankurchi reserved forest is reported to be too dry and hard for successful germination of seed.

In *North Coimbatore* the acha (*Hardwickia binata*) which flourishes in all the drier portions of the Kollegál and Bhaváni taluks seeds liberally in February and being light the seeds are blown some distance from the parent tree and well scattered over the whole surface of the ground. When the forest escapes fire even for a single year seedlings come up plentifully but only to perish when the next fires occur. Where the grass is burnt immediately after seeding the seeds are also burnt and no seedlings survive. Fire protection is much needed to ensure better results.

The satinwood (*Chloroxylon Swietenia*) which grows abundantly in all the lower valleys throughout the North Coimbatore division including the eastern slopes of the Nílgiris and the less elevated valleys of the Kollegál and Bhaváni taluks seeds very freely every year and the seed being extremely light is blown great distances by the wind and well dispersed. When the ground is bare of grass seedlings spring up very freely, but when the grass is thick no seedlings come up. Fire protection alone will not therefore help reproduction in this case. The sandal (*Santalum album*) is propagated by birds which swallow the entire fruit and drop the seed under the trees and bushes where they perch. Young sandal plants are to be found in every ravine and thicket in the three sandalwood reserves of Kollegál but they are not so numerous as could be expected after 6 or 7 years of protection of those reserves. This is to a certain extent due to rank undergrowth which does not admit of sufficient light necessary for the young plants. The protection, moreover, has been by no means complete and both fire and cattle have entered repeatedly.

The District Forest Officer, *South Coimbatore*, writes that in regard to natural reproduction and causes of failure in the high forest of his division another year's observation only tends to corroborate the statements made in the last annual report. Mr. Porter finds that there is little or no "advance growth" of teak from seed in the Anamalai forests worked under the Jardinage system and considers that we must stimulate or assist reproduction by clearing away the undergrowth and rank grass which prevent the seeds from germinating or seedlings flourishing and by planting out seedlings from nurseries where necessary. The Conservator agrees with him and experiments in those directions will be undertaken during the current year.

The coppice reproduction in the Sholakarâi block of the Bolampatti Forest is admirable. It is also being supplemented by seedling growth of which the following are the numbers counted in compartment A, coupe 4, comprising 33·12 acres felled in 1888:—Teak seedlings 1,973. Rosewood 950. Vengai (*Pterocarpus Marsupium*) 112. 520 of the teak and 419 of the Rosewood seedlings were over 5 feet high.

In *Madura* the reproduction by coppice in the Kadavur block of the Alagar hill reserved forest is satisfactory, but progress of growth is more noticeable up to the end of the third year, when it appears to stagnate. The bare slopes of the Alagar hill are gradually reclothing themselves with vegetation, but although there has doubtless been great improvement the process is not altogether encouraging owing to the rank growth of long grass which cannot easily be removed or destroyed and does not die away. The surface soil has also in many places been entirely washed away after the slopes were denuded of tree growth.

There are parts of the district on the Sirumalais, the Perumalmalai reserve and portions of the Pumbarai-Vilpatti valley reserve for example, where natural repro-

duction is distinctly bad owing partly to the steep and stony nature of the ground and partly to long grass choking all the efforts of seedlings to force their way out.

In *Tinnevelly* portions of the deciduous forests which have been successfully protected from fire for a number of years are now being gradually covered with such vegetation as *Grewia teliæfolia*, *Helicteres isora*, *Zizyphus xylopyra*, &c. Reproduction from seed continues to be good in the moist evergreen forests in the ghâts, but it is very unsatisfactory in deciduous forests which are not under special fire protection or through which fire has passed during recent years. The state of the soil appears to account for this difference and successful reproduction from seed cannot possibly be expected until the surface soil has been transformed from its brick-like composition into a soil of a more friable and spongy nature, capable of retaining moisture for a sufficiently long time to ensure the germination of seed and life of the seedling.

Reproduction by coppice in nearly all the coupes felled on the coppice with standard system is satisfactory. Even there, however, reproduction from seed is unsatisfactory as it is found that teak seedlings although plentiful during and after the north-east monsoon generally die off during the succeeding hot weather. The roots of some of these appear to retain some degree of vitality and throw out fresh shoots during the next rainy season. As such shoots have well developed tap roots they usually withstand the succeeding hot weather unless it be one of exceptional severity.

In *North Malabar* the reproduction of teak (*Tectona grandis*) is visible only from stool shoots and root suckers of seedlings of former years burnt down by the annual fires. Reproduction from seed is entirely absent. The District Forest Officer is inclined to attribute this to the ground being so covered with leaves, &c., as to prevent the seeds reaching it and to the thick growth of the *Helicteres isora*, &c., springing up as soon as the leaf canopy is broken by the felling or natural decay of mature and back going trees. He cannot, however, speak decidedly on the subject, and the Conservator would ascribe the same reasons and remedies as in the case of South Coimbatore (Anamalais).

The reproduction of rosewood (*Dalbergia latifolia*) by seed is fairly good.

The reproduction of vengai (*Pterocarpus marsupium*) is fair at Begur and very good at Chedlet, but it would be better still if more of the seeds could reach the ground. In the case of the *Terminalia tomentosa* (matti) almost every seed is eaten up by the hill squirrel. Two species of monkeys are also very destructive to the seed of this tree.

In short, the character of the forests in Wynaad appears to be gradually changing. Teak, it is apprehended, will be the first species to vanish unless every possible measure is adopted to reproduce it naturally and artificially. *Grewia tiliæfolia* and other inferior trees would take its place.

In *South Malabar* also the absence of teak seedlings is striking in Nellikutta and Karimpoya reserved forests, but one good result of their protection from fire since 1883 appears to be the fair reproduction by seed of benteak (*Lagerströmia microcarpa*) and rosewood (*Dalbergia latifolia*). The seeds of those trees being small germinate soon and take root at once, but in the case of teak the ground appears to be too hard to receive the seeds which are washed away by the heavy rains.

The reproduction from coppice and seed in the Wálayár reserve in Pálghat range is excellent, particularly the reproduction from coppice in all the coupes. Teak forms the greater proportion of the growth, bamboo which predominates being excepted. Success is mainly attributable to fire protection. Chenat Nair reserve has also greatly benefited from successful fire protection during the past 6 years. The good result is apparent from the number of seedlings of *Dalbergia latifolia*, *Xylia dolabriformis*, *Pterocarpus marsupium* and other species springing up on every side. The soil is as a rule favorable to the growth of these trees.

In *South Canara* a small casuarina plantation of 7 years growth was carefully cut over close to the ground, but only a small proportion of the stools produced coppice shoots. The failure of the majority might it is said be due to the heat of the surrounding sand and consequent drying up of the bark, but the Conservator is convinced that we cannot rely on reproducing casuarina by coppice. Fair success may be obtained by judicious lopping and pollarding so as to develop shoots or suckers low down on the stem, but this is not coppice proper and the tree is so easily and inexpensively artificially reproduced from seed that that method commends itself as best and most reliable.

(f) *Artificial Reproduction, Regular Plantations, Cultural Operations and Topes.*

19. A comparison of the figures under this head for the past two years shows that better progress was made and a larger area planted at a reduced cost during the year under report than in 1888-89.

ABSTRACT K.—Plantations, topes, and cultural operations in other areas from commencement.

	Up to 1888-89.		Added during 1888-89.		Added during 1889-90.		Total	
	Area in acres.	Cost.	Area in acres.	Cost.	Area in acres.	Cost.	Area in acres.	Cost.
		Rs.		Rs.		Rs.		Rs.
Plantations ..	11,918	6,09,828	+ 149 — 275	25,632	+ 252	25,613	12,044	6,60,973
Topes	18,883	2,04,967	+ 15	5,189	(a)— 10	4,741	18,888	3,04,897
Other areas ..	3,361 and 100 miles of channel banks.	34,639	+ 485	2,093	+ 357	2,302	4,203 and 100 miles of channel banks.	39,034
Total ..	34,162 and 100 miles of channel banks.	9,39,434	+ 649 — 275	32,814	+ 609 — 10	32,656	35,135 and 100 miles of channel banks.	10,04,904

(a) For explanation see remarks in Form No. 61.

In *Chingleput* 12,810 casuarina seedlings were put down in the area felled over in the preceding year, viz., 14 acres in the Meiyur plantation.

The revenue from topes was Rs. 254 as against Rs. 211 in the preceding year.

In *South Arcot* 147,000 casuarina plants were put down in 76 acres at a cost of Rs. 651. The planting was done in a desultory manner and the plantation records were found most incomplete.

In the Cuddalore range an attempt at cultural operations during the year resulted in the production of only 1,630 cashew seedlings. This attempt and those in the Tirukoilúr and Kallakurchi ranges may be considered to have failed chiefly owing to the absence of timely rains.

In *Trichinopoly* about 15 acres of a 74 acre coupe in the Cauvery south bank plantations were replanted with casuarina and *Cassia florida* raised in nurseries; 15 acres of the Coleroon padugais were leased out for three years on the condition that the lessee should stock the area with casuarina in consideration of his being permitted to raise tobacco and plantation crops on the land for his own benefit free of rent. This appears a very doubtful experiment.

About 6 acres of the area felled in the Kolamanikam plantation in the Udayárpálaiyam range were restocked with casuarina plants.

In *Tanjore* 55 acres were dibbled with cashewnuts. About 75 per cent. germinated in 43 acres and the plants were in fairly good condition at close of the year. The result of dibbling over the remaining 12 acres is not reported. A good many pinnai (*Calophyllum inophyllam*) seeds were dibbled in the Méltôttam west block; 80 per cent. germinated and the plants were in good condition.

In *North Coimbatore* 4,978 pits of 1-foot cube were dug in the Bylúr plantation for transplanting divi-divi, mango, jack, &c., plants; 20 seers of arnotto (*Bixa Orellana*) seeds were sown in beds. A water channel was cut 3,411 yards in length and 12 acres of the sandalwood plantation were weeded and thorny bushes, &c., removed and burnt.

In *South Coimbatore* (Tunakadavu No. I Range) 50 acres of bamboo bushes and inferior growth were cleared in a block situated on either side of the road leading to Mount Stuart from the old teak plantation for a distance of about 6 furlongs, but only 7 acres were planted with teak seedlings raised in nurseries, planting in the remaining 43 acres having been unavoidably postponed owing to pressure of other more important works, *e.g.*, tramways, &c. The District Forest Officer proposes to try the experiment of a mixture of teak, rosewood and vengai, as it seems more than probable that such mixture would do better than pure teak. The Conservator concurs in this opinion, but does not consider such areas should be classed under plantations.

In *Madura* the new planting at Gundan shola was extended by about 21 acres. The planting was on the whole successful and season fairly favorable. A large number of casualties due to frost had to be replaced in the previous year's planting.

The Navinipatti garden (tope) at Melúr was placed under charge of Land Revenue Department prior to its disposal by sale.

In *Tinnevelly* the reclamation of the Kudiraimalai teri proceeded as usual and 98,280 palmyra nuts were planted over an area of 150 acres. Also an area of 46 acres (portion being ploughed) was sown by penning several herds of goats and feeding them on *Acacia planifrons* pods. A further area of 36½ acres was planted with nanal grass (*Santarum spontaneum*).

The results of operations on the above areas as well as other smaller ones were not, however, so satisfactory as usual. This was owing to an unfavorable north-east monsoon.

In *North Malabar* the teak plantations at Kanot were weeded, pruned and fire-traced as usual. The trees have improved a good deal in appearance.

The Government cardamom garden at Mukkee and the Mukkee Paya cardamom plantation were weeded and pruned. There was a fair crop in both the estates, but the amount realized was very small owing to market rates for the produce being low.

In *South Malabar* teak planting with mahogany standards sanctioned in 1885, was continued and the fourth block was planted with 152,974 teak and 1,492 mahogany seedlings: 150 acres were cleared but only 140 stocked with teak and mahogany, the remaining 10 acres, not being found suitable for teak, being utilized for planting bamboos: 14,298 teak and 111 mahogany or about 9 per cent. of both died within a few days after planting, but were at once replaced: 21,645 teak and 60 mahogany plants were put down in block No. 3 to replace casualties. In other respects the Acting Conservator found the plants in this block were doing very well. The growth of mahogany is, however, somewhat retarded owing to constant attacks by the borer.

The Acting Conservator obtained a small supply of mahogany (species *macrophylla*) seed from the Royal Botanic Garden, Calcutta, with a view to trying this species at Nilambúr on a large scale, and of the one pound of seed sent to Mr. Hadfield in March last and sown at once according to instructions 600 had already germinated at close of year, and more were expected. The specimen tree in the Chattambarai plantation which has never been attacked by the borer and made such excellent growth is believed to be of this variety. The seedlings now raised will be planted next season as standards amongst teak in the fifth block for which land has already been cleared.

The usual annual operations of weeding, pruning and thinning were carried of satisfactorily.

The following abstract shows the result of enumeration and thinnings carried on during the past 5 years in accordance with a preliminary working scheme drawn up in 1885:—

Name of plantation.	Area in acres operated upon.	Age of growth.	Contents.		
			As fixed for each period by P.W.S.	As ascertained by enumeration.	Difference.
1	2	3	4	5	6
Iravillikava	131·56	33 to 44	13,237	8,189	— 5,048
Edakod	649·05	25 to 43	75,929	90,867	+ 14,938
Ramalloro	21·33	37 to 43	2 083	2,585	+ 502
Ellanjeri	337·76	30 to 42	35,160	42,463	+ 7,303
Arivukodo	113·63	37 to 39	11,363	14,767	+ 3,404
Mulathu Manna	71·56	34 to 38	7,364	7,841	+ 477
Pannangód	393 71	24 to 34	63,144	62,891	— 253
Amarampalam	408·77	11 to 26	240,646	197,163	— 43,483
Walluva Sheri	581·00	17 to 25	193,696	157,804	— 35,892
Nellikutta	120·23	14 to 15	72,138	72,138	..
Chothambarai	498·10	13 to 15	298,860	203,001	— 95,859
Total ..	3,329·70	..	1,013,560	859,709	— 151,851

Name of plantation.	Capability.			Result of thinnings.	
	As fixed for each period by P.W.S.	As actually worked.	Difference.	Number of trees ought to stand as per P.W.S.	Number of trees actually standing.
	7	8	9	10	11
Iravillikava	1,319	769	— 550	10,918	7,420
Edakod	12,557	21,882	+ 9,325	63,372	68,985
Ramalloro	213	575	+ 362	1,870	2,010
Ellanjeri	6,049	10,453	+ 4,404	29.051	32,010
Arivukodo	1,136	4,114	+ 2,978	10,227	10,653
Mulathu Manna	715	1,241	+ 526	6,049	6,600
Pannangód	18,610	16,401	— 2,209	44,534	46,490
Amarampalam	75,633	6,949	— 68,684	165,013	190,214
Walluva Sheri	82,279	43,343	— 38,936	111,417	114,461
Nellikutta	24,046	15,108	— 8,938	48,092	57,030
Chothambarai	99,628	33,791	— 65,837	199,232	169,210
Total ..	322,185	154,626	— 167,559	690,375	705,083

It will be observed that although the existing stock and capability were over-estimated, Mr. Hadfield has limited his thinnings accordingly, with the result that the average number of trees now left standing per acre is on the whole fairly correct. A similar scheme for another 5 years' period will be drawn up during the current year.

In *South Canara* the acre felled in the preceding year in Ullal casuarina plantation was re-planted and 6·99 acres of Tannir Bhavi reserve was also planted up. The Acting Conservator during his tour in the district in January last found the growth of casuarina at Tannir Bhavi very fair and the casualties in the year's planting comparatively few.

One acre of casuarina 21 years old was cleared at Ullal. The yield including roots and branches amounted to 143 tons, the average annual acre increment being about $6\frac{3}{4}$ tons as against $5\frac{1}{2}$ tons obtained in the preceding year from an acre of casuarina of 20 years' growth.

(g) *Works of Improvement.*

20. In *Chingleput* the Pulrambakam reserve was fenced by a trench all round.

In *Trichinopoly* clearing of undergrowth and prickly-pear, cutting of creepers, weeding and fencing were carried out in the Cauvery and Coleroon plantations and padugais wherever necessary.

In *North Coimbatore* a fence of mulkiluvai (*Balsamodendron Berryi*) was erected around the Government tope at Karúr.

Prickly-pear uprooted in the previous year was burnt, and 15 acres are thus cleared of it.

The experiment made in regard to eradicating prickly-pear by means of special machines constructed for the purpose by the late District Forest Officer, Mr. Hayne, does not appear to have proved successful from a financial point of view.

The experiment cost Rs. 3,615 during the past 4 years, and the area cleared is 63 acres, the average cost per acre thus amounting to about Rs. 57, which seems high, considering that the area in question was not *entirely* covered with prickly-pear. This scourge is extending everywhere in the plains of Coimbatore and has even invaded the upland taluks. Unless early and drastic measures are undertaken to restrict its growth, the result of our efforts in the shape of fuel and fodder reserves will be large areas covered with prickly-pear and quite inaccessible to man or beast.

In *South Coimbatore* the coupes felled over in previous years in Sholakarai reserve were cleared by cutting away the inferior growth and creepers around teak, rosewood and vengai seedlings.

In *South Malabar* parasites in the teak plantations were removed as usual.

(h) *Experiments and Exotic Trees.*

21. The report connected with this section will be found printed as an appendix as usual. Results on the whole are satisfactory.

(i) *Communications and Buildings.*

22. A comparison of the figures in the following table will show that progress during the year under this section of works was by no means backward. The budget allotments were nearly worked up to.

ABSTRACT L.—Communications and Buildings.

Description of work	Cost during 1888-89.	Cost during 1889-90.	Remarks.
	Rs.	Rs.	
Road and bridge repairs	4,056	(a) 6,186	(a) Expenditure was heavy in South Coimbatore in connection with the repair of roads and bridges on the ghat road, tramway lines, &c.
New roads and bridges	11,689	11,653	
Building repairs	4,183	(b) 5,740	(b) Due to increase in the number of buildings.
New buildings	(c) 14,516	11,912	(c) The expenditure on Forest Officer's new bungalow at Nilambúr swelled the expenditure during 1888-89.
Other work	584	..	
Repairs and other new works ..	220	446	
Total ..	35,848	35,937	

23. The chief works consisted of—

In *Chingleput* the erection of a rest-house at Nágalápuram which will serve also as a Forester's office, the want of which had been much felt.

In *South Arcot* the construction of $2\frac{1}{4}$ miles of road on the Tenmalai ghât previously traced and widening about $1\frac{7}{8}$ mile of the ghât road constructed in previous years. Also the completion of the Range office building at Kallakurchi.

In *Trichinopoly* the construction of $1\frac{1}{4}$ miles of road for the purpose of connecting the Pachamalais ghât road (lately transferred from Local Fund to our charge with an annual allotment of Rs. 1,000) with the Turaiyur-Atur road in the plains; tracing of three miles of ghât road along the southern and western slopes of the Sengattupatti reserved forest with an average gradient of 1 in 16 and completing the rest-house on the Pachamalais which was in course of construction at close of previous year.

In *North Coimbatore* the restoration of the road (14 miles) from Hassanúr to Bylur, abandoned by the Local Fund Department and neglected for years. The erection of two rest-houses and three tanna huts and improving the Range office building and the Forester's quarters in the Satyamangalam range.

In *South Coimbatore* making of roads for tramway; contribution of Rs. 1,375 towards the construction by the Local Fund Department of 6 miles of road in the Bolampatti valley which is the main source of fuel supply to the Coimbatore town; the construction of half a mile of timber slip in Tunakadavu; and the addition of store godowns to the building at Mount Stuart.

In *Madura* cutting and levelling ghât road over Alagar hill including the construction of tunnels and blasting of rocks, and cutting about one mile of road in Gundan shola; the construction of a Forester's quarters at Gúdalúr, a Range officer's quarters and office at Kodaikánal, a Depôt-keeper's quarters at Gundan shola and a Forester's quarters at Balasamudram.

In *Tinnevelly* the tracing and cutting of a bridle path (8 miles) from Shengalteri to Kuriar; construction of a Ranger's rest-house and office at Courtallam, a rest-house at Sivasylum, the Forest officer's bungalow at Mandantorai not completed, and the completion of the rest-house at Kulivilaipil and the Forester's and clerk's house at Kannikotti odai.

In *North Malabar* completion of the Tirunelli forest inspection lodge and outhouse attached thereto and construction of two Forest Guards' stations at Kakary and Tirunelli.

In *South Malabar* opening of 2 miles of compartment road with channel in the new teak plantation, Nilambúr range, and 5½ miles of inspection paths and compartment roads in Wálayár, erection of three kalsirambis (raised wooden houses) in the Amarampalam range, *i.e.*, two at Karimpoya and one at Necratikadava for Foresters and providing the Forest Officer's new bungalow at Nilambúr with a lightning conductor.

Tramways.—The Acting Conservator submitted to the Board of Revenue in March last a special report regarding the cost of working of tramways in North Arcot and South Coimbatore which if the Board approves may be printed as an appendix to this report. The latest accounts from South Coimbatore District Forest Officer show that the tramway is now working well, that bullocks can be utilized for draft and that a saving of Rs. 1-4-0 per candy (12½ cubic feet) will be effected. The acting District Forest Officer, North Arcot, reports that an extra ½ mile of line is required to make the work complete.

CHAPTER V.

Yield and Working.

24. The total yield during the year as compared with that of the preceding year is shown in the following table:—

Abstract M.—Comparative yield.

Heads.	Timber in cubic feet including sandalwood.		Fuel in cubic feet.		Bamboos in number.		Minor produce—gross value in rupees.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
By Government agency.	165,977	(a) 182,315	511,935	(b) 867,532	19,521	23,759	67,102	30,100
By purchasers including confiscations	1,266,812	1,663,868	7,779,800	7,039,783	6,183,415	5,470,344	212,782	2,16,950
Free grants	7,824	6,523	640	800	17,154	21,415	..	37
Total ..	1,440,613	1,852,706	8,292,376	7,908,115	6,220,090	5,515,518	279,884	2,47,087
Difference in 1889-90 as compared with 1888-89	..	+ 412,093	..	— 384,260	..	— 704,572	..	— 32,797
Percentages of increase or decrease on the previous year's totals	..	+ 28	..	— 5	..	— 11	..	— 12

(a) Includes 1,861 cubic feet, being excess found on re-measurement of timber collected and taken to depôt in previous year.

(b) Includes 58 cubic feet, being excess found on re-measurement of fuel collected and taken to depôt in previous year.

The difference between the yield of the two years will be explained under the several heads.

The average approximate yield during the year per square mile of forest area under immediate control amounted to 1,000 cubic feet of timber and fuel, 500 bamboos and 25 rupees worth minor produce.

Section 1.—*Departmental Operations.*

25. The number of trees felled during the year (Form No. 68) as compared with the preceding year is as follows:—

ABSTRACT N.—Trees felled and converted.

Balance brought forward.	Felled in 1888-89.	Felled in 1889-90.	Converted, 1888-89.	Converted, 1889-90.	Balance carried forward.
88	4,438	7,068	4,175	7,117	302

The increase for the year in the number of trees consisted chiefly of about 1,500 casuarinas felled in North Arcot and Trichinopoly for the supply of sleepers and posts to the railway. Several dead and half dead teak, rosewood and vengai trees from the Begur reserved forests in North Malabar were also removed whilst the number worked out in South Coimbatore fell considerably below estimates owing to delay in the completion of the tramway. In Salem 330 sandalwood trees were felled which is a new departure, sandalwood operations in that district having been suspended for several years pending enumeration, &c.

26. The produce collected and disposed of by the department is shown in the following table:—

ABSTRACT O.—Produce collected and disposed of.

Produce collected.	DURING 1888-89.			DURING 1889-90.		
	Quantity.	Cost.	Average.	Quantity.	Cost.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber in cubic feet	164,560	44,831	0 4 4	(a) 179,613	38,538	0 3 5
Fuel in cubic feet	511,935	15,169	0 0 6	(b) 867,532	35,377	0 0 8
Bamboos in number	19,521	198	0 0 2	23,759	208	0 0 2
Sandalwood in cubic feet	1,417	1,411	0 15 11	2,702	2,208	0 13 0
Minor produce in maunds of lb. 25 ..	30,433	34,762	1 2 3	(c) 20,372	19,424	0 15 3
Total ..	..	96,371	..	..	95,845	..

Produce disposed of.	DURING 1888-89.			DURING 1889-90.		
	* Quantity.	Sales.	Average.	* Quantity.	Sales.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber in cubic feet	208,241	128,394	0 9 10	153,726	94,622	0 9 10
Firewood in cubic feet	489,958	45,145	0 1 6	893,889	78,864	0 1 5
Bamboos in number	19,444	1,603	0 1 4	25,318	1,968	0 1 3
Sandalwood in cubic feet	1,657	10,564	6 6 0	2,283	14,115	6 2 11
Minor produce in maunds of lb. 25 ..	34,365	67,102	1 15 3	12,625	30,100	2 6 2
Total ..	..	252,808	..	..	219,669	..

(a) Includes 1,851 found in excess in the depôt.
(b) Do. 58 do. do.
(c) Do. 3 do. do.
* Includes that used departmentally, written off, &c.

The increase in the quantity of timber collected during the year is principally due to the working out of dead teak in North Malabar, thinning out of a larger number of teak saplings from the Nilambúr plantations in South Malabar and extraction on a larger scale of redwood roots in North Arcot in order to save them from decaying or being otherwise destroyed in the forests. The reduction in the average cost for the year is a satisfactory feature.

The increase in the quantity of fuel collected is due to very large demands for it in North Arcot, Trichinopoly and Tanjore from the Railway Department and in Tinnevelly from the Coral Mills Company and Cotton Press Companies at Tuticorin and Virudupati. The small increase in the average cost of collection occurred chiefly in North Arcot where fuel had to be worked out from remoter localities in the forests for supply to railway.

More sandalwood was collected during the year at a less average cost in North Arcot, South Arcot and Salem, partly for sale to a firm (Messrs. Grimault and Co.) in Paris, the roots being for the extraction of oil for medicinal purposes.

The decrease in collection under minor produce has occurred chiefly in South Canara and is apparently due to the season not having turned out so well as was expected. There has been an unaccountable falling off in demand for some articles, notably wild mace. The season of 1888-89 appears to have been exceptionally favourable as explained in the last annual report.

With reference to disposals during the year the unexpected delay in the completion of the tramway in South Coimbatore seriously interfered with the transport of timber to market depôts and consequently affected sales. The demand for dead teak collected in North Malabar appears also to have been slack, as was the case in South Malabar in respect to teak saplings. The market for redwood was also dull and much of the roots collected and stored in the North Arcot depôts had to be held over for sale during the current year. On the whole the sales during the year appear to have been properly regulated and the average rates of the preceding year maintained.

The decrease under minor produce occurred in South Canara as already explained.

There were no indents during the year from the Department of Public Works either for timber or firewood : 354,168 cubic feet of fuel and 2,000 bamboos were supplied to the South Indian Railway, *i.e.*, 158,113 cubic feet from North Arcot and 196,055 cubic feet from Trichinopoly. Besides the above, the former district supplied the Kolar gold mines with 96,423 cubic feet and the Central Jail, Vellore, with 7,007 cubic feet of fuel. The Remount Depôt in Salem was supplied with 1,009 cubic feet of timber and 2,888 bamboos from Salem.

The value of stock balance in depôts was Rs. 44,918 as against Rs. 52,290 at the commencement of the year, showing a reduction of Rs. 7,372.

Section 2.—Removals by Purchasers.

27. The following table shows the removals by purchasers during the year under seignorage permits as compared with the preceding year.

PRODUCE removed by permit-holders (Appendix 72-A).

Produce.	DURING 1888-89.			DURING 1889-90.		
	Quantity.	Amount of sales.	Average.	Quantity.	Amount of sales.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber .. .. C. ft.	1,259,671	1,12,860	0 1 5	1,648,368	1,50,572	0 1 6
Firewood .. .. ,,	7,766,040	1,77,363	0 0 5	7,030,486	1,85,737	0 0 5
Bamboos .. .. No.	6,175,415	80,314	0 0 2	5,459,249	79,740	0 0 3
Grass and grazing	..	52,331	..	..	64,158	..
Minor produce	..	2,12,297	..	..	2,16,758	..
Total ..	..	6,35,165	..	..	6,96,965	..

The total revenue for the year under this head exceeds that for the preceding year by 9 per cent. and the revised estimate for the year by 13 per cent. Quantities removed as compared with the preceding year shows an increase of 31 per cent. under timber, a decrease of 9 per cent. under fuel and an increase of 12 per cent. under bamboos, the money value showing an increase of 33 per cent., a decrease of 5 per cent. and an increase of 1 per cent. under the three heads, respectively. The differences are apparently due to removal of a larger proportion of higher class timber, green wood for fuel and split bamboos, the seignorage rates in these cases being higher.

The increase under timber accrued chiefly in North Arcot, Salem and Madura, but other districts excepting Chingleput, South Arcot and Malabar also contributed.

The decrease under fuel was chiefly in North Arcot, but owing to the supply of a larger proportion of green wood to railway, &c., the amount of revenue was not materially affected.

There was a considerable increase under minor produce in South Arcot, by the transfer from land revenue of accumulated arrears of tree rents (Rs. 21,076) but it was counterbalanced by a large deficit of Rs. 18,000 in Salem by the transfer of tree rents from Forests to Land Revenue due apparently to a misinterpretation of the orders of the Government of India. The actual loss of forest revenue under tree rents alone in the latter district appears to be upwards of Rs. 30,000, which is counterbalanced by increases under other items, leaving a net falling off in revenue from minor produce of Rs. 18,000. The matter is under reference to the Collector.

349, 180 cubic feet of fuel were supplied to Railways (chiefly Madras) under this head.

Confiscated Produce.

28. The confiscated produce sold during the year as compared with the year before shows the following results :—

ABSTRACT P.—Confiscation.

Produce.	During 1888-89.			During 1889-90.		
	Quantity.	Amount realized.	Average.	Quantity.	Amount realized.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber and Sandalwood .. Cubic feet.	7,141	2,208	0 4 11	15,500	1,572	0 1 7
Firewood .. .. ,,	13,760	660	0 0 9	9,297	636	0 1 1
Bamboo .. .. No.	8,000	380	0 0 9	11,095	275	0 0 4
Minor produce in money value ..	..	485	..	..	192	..
Total ..	..	3,733	..	..	2,675	..

Section 3—Free Grants of Forest Produce.

29. The following exhibits the free grants made by Forest Officers and their value.

ABSTRACT Q.—Free Grants.

District.	Timber.	Firewood.	Bamboos.	Minor produce in money value.	Money value.
	C. FT.	C. FT.	NO.	Rs.	Rs.
North Arcot	Particulars not available.			..	2,068
South Arcot	..	800	..	..	163
Salem	4,042	..	16,415	..	529
Trichinopoly	1,080	..	..	..	96
North Coimbatore	1,000	..	5,000	..	141
Madura	401	..	..	37	73
Total ..	6,523	800	21,415	37	3,070
Free grants of last year	7,824	640	17,154	4	1,380

The money value given does not include the value of free grazing permitted in reserved areas which must be very large in North Arcot, North Coimbatore, and Tinnevelly.

The only noteworthy items under free grants appear to be the absence of details from North Arcot and the grant under the Collector's sanction of 50 cart-loads of bamboos in North Coimbatore to a Rev. M. Burthon at Audiyur in the Bhavâni taluk. The grant is stated to have been to enable his converts to build houses.

There is no account to show the value of free removals by villagers, &c., of timber, fuel, &c., for domestic and agricultural purposes.

CHAPTER VI.

Financial Results.

30. The revenue and expenditure of the Circle according to appendix No. 64 compare with the actuals of five previous years and with the revised estimate of the year under report as follows:—

Items	For 1884-85.	For 1885-86.	For 1886-87.	For 1887-88.	For 1888-89	For 1889-90	Revised estimate for 1889-90	The year under report compared with the previous year	The year under report compared with the revised estimate.
	Rs	Rs	Rs	Rs	Rs	Rs.	Rs.	Rs	Rs
Revenue ..	6,25,492	6,52,318	6,94,535	8,10,197	8,98,086	9,51,017	8,85,000	+ 52,931	+ 66,017
Expenditure A Conservancy and works	2,09,344	2,34,006	3,80,192	3,45,742	4,08,269	3,85,586	4,10,000	— 22,683	— 24,414
B Establishment ..	2,87,579	3,00,608	3,40,529	3,28,981	3,33,863	3,21,442	3,40,000	— 12,421	— 18,558
Total expenditure ..	4,96,923	5,34,614	7,20,721	6,74,723	7,42,132	7,07,028	7,50,000	— 35,104	— 42,972
Net results ..	+1,28,569	+1,17,704	— 26,186	+1,35,474	+1,55,954	+2,43,989	+1,35,000	..	..

The revenue has continued to increase. The surplus of the year amounted to Rs. 88,035 more than that for the preceding year, notwithstanding the large expenditure (Rs. 75,000) on forest surveys. The revenue and expenditure during the year rose by about 5 per cent. as compared with the previous year. The revenue was about 7 per cent more and the expenditure nearly 6 per cent. less than the revised estimates, but both were closely in accord with the Acting Conservator's estimate before revision by the Board and Government. Towards the cash surplus shown North Arcot contributed 44 per cent., Salem 30 and South Arcot 21 per cent.

31. The working results of the year may be fairly understood from the following:—

		Rs.
Cash surplus of the year as shown above		2,43,989
Add expenditure on live stock, stores, tools, plant and buildings F No 73-B		11,907
Do.	on Settlement establishment (B charges) ...	18,307
Do.	on demarcation (VIII-*a*)	13,297
Do.	on acquisition of land and right (VIII-*b*) ...	2,063
Do.	on surveys (VIII-*c*)	75,168
Do.	on law charges (IX-*b*)	222
		3,64,953
Deduct—		
Decrease in outstanding revenue (F. No. 66)		4,420
Increase in outstanding advances (F. No. 65)		1,782
Decrease in value of depôt stock (F. No. 73-A)		7,372
		13,574

The above calculation leaves a balance of Rs. 3,51,379 in favor of the ordinary working account for the year as compared with a similar balance of Rs. 3,20,939 for the preceding year. The financial results and prospects are highly satisfactory and encouraging, but the Conservator would like to see the whole surplus for some years to come devoted to works of permanent improvement and the provision of more adequate and better paid establishments.

CHAPTER VII.

General Remarks.

32. *Forest School.*—The two Rangers (Mr. Thompson and M. Rama Row) deputed to the Forest School in 1888-89 obtained Ranger's certificate with honors and returned in April 1890. One Forester (A. R. Rama Row) was deputed to the school during the year under report.

33. *Conduct of the Establishment.*—One Ranger suspended at the close of the preceding year is still under suspension pending the investigation of the charges against him. Two Foresters were suspended, two reduced to lower grades, and four resigned. There were numerous reductions and dismissals of Forest Guards by District Forest Officers of which there is no record in the Conservator's office. The recruitment of this class of men is most difficult.

Five cases of fraud and misappropriation of Government money chiefly by permit issuing officers came to light. The individuals concerned were prosecuted and conviction secured.

34. *Health of the Establishment.*—The health of the officers of the superior staff was fairly good. Mr. Morgan had repeated attacks of Wynaad fever and complications resulting from it.

The subordinate staff again suffered severely. There were 15 cases of leave on medical certificate among the Rangers and Foresters for periods varying from 1 to 9 months. One Forester and 6 Forest Guards besides several watchers and other members of the temporary establishment died. In all districts except Chingleput and Tanjore fever was prevalent. It was bad in parts of Coimbatore and the whole of Malabar as usual. The work in Wynaad was in consequence seriously interfered with. Cholera is reported to have prevailed at Pálghat and Calicut

35. *Service Books.*—Greater progress was made during the year in the verification of service registers and the books of only 16 per cent. of the employés remained unfinished at the close of the year as against 33 per cent. at the end of the preceding year.

36. *Wild elephants.*—One tusker and three cow elephants were captured during the year in the newly purchased Amarampalam forests in South Malabar. One cow elephant was captured in North Malabar and is reported to be doing well.

37. *Administration.*—The Collector of North Arcot (Mr. LeFanu) writes:—

"There is crying necessity for a trained and competent Forest-officer. Although this is a very important district it has, I believe, never been placed under a trained officer, and the result is felt in every direction * * * * * . Ordinary work has been greatly sacrificed to the demands of the forest settlement and I could not in decency press the District Forest Officer, as I knew that his time was fully occupied with the preparation of the reserve notifications, descriptive notices, &c. In the last year increased accuracy and detail have been required of the Forest Department in the matter of settlement work, and the office has been full of work sent back from the Revenue Board to be done over again. This will go on for at least a year to come. Then will come survey, demarcation, &c., and I despair of seeing the District Forest Officer devote himself to the routine of forest work for years to come.

"Our revenue has been flourishing, which makes it the more deplorable that a trained officer, for whom the resources of the district can so well afford to pay, has not been sent. I have myself no desire to stimulate forest revenue, for my feeling is that what the district most wants is rest. In the Mámandúr valley and at Ambúr I am especially desirous to stop felling of all kinds for years to come."

The Collector of Tinnevelly (Mr. H. Tremenheere) considers the management of the forests in that district very creditable, an opinion in which the Conservator fully concurs.

The Collector of South Arcot seems to have reduced the seignorage rates for the branches of all classes of trees when removed as firewood, which would appear to be unnecessary and will be inquired into.

As the Tiruvannámalai (South Arcot) Temple authorities could not agree, and no satisfactory arrangements could be arrived at with them, the offer to hand over the forest to the Temple Committee for management was withdrawn and the amount received on their behalf ordered to be refunded.

All the District Forest Officers and their office and field establishments appear to have worked more or less at high pressure during the year.

Office work has unfortunately greatly increased, in spite of every effort to reduce it. The work in the Conservator's own office has been exceptionally hard, and the greatest praise is due to the Manager and Head Clerk, for the manner in which they have performed it. Simplification of the system of accounts, less writing and better organization of offices of all descriptions appears urgently called for.

APPENDIX.

Details of experiments with exotics during and up to the close of the official year 1889-90.

Carob (*Ceratonia siliqua*).—Of those planted in 1878 by Mr. Morgan in North Coimbatore, two trees survive, the larger of which is about 25 feet high and 1 foot in diameter. Both are in full bearing.

Dates.—Of the date palms raised from seeds specially imported from Busrah in 1886, there are 59 plants in *North Arcot*, varying from 1 to 2½ feet in height. These and others in *South Arcot* and *South Malabar* (Nilambúr) are stated to be healthy.

Of the plants raised from seeds of bazaar date fruits obtained from the west coast (Calicut), those at Bylur in *North Coimbatore*, as a rule, look healthy and vigorous, though planted out far too close to each other. Judging from a good specimen tree (30 feet high) at Hassanur at about the same elevation as Bylur, the climate would appear to suit the dates very well. In *North Malabar* most of the plants alive last year have died. The surviving plants have been transferred to Chedlet. Of the dates sown in *South Canara* in 1888-89 there were 100 in the seed-bed. 64 were transplanted during the monsoon. Of these 34 died; 6 out of the 36 left in the bed have also since died. The survivors both transplanted and otherwise made but little progress. In *Chingleput*, 5 lb. of seed were sown; 165 germinated. Of these 79 died. The surviving plants are 9 inches high and look healthy. The District Forest Officer, Chingleput, had also sown 1 lb. of seed obtained from fruits purchased in the local market; 38 germinated. Of these 7 died. The surviving plants are 1 foot high and look healthy, but the soil and climate are clearly unsuitable.

Of the *Persian dates* (*Phœnix dactylifera*) 10 oz. were sown in *Chingleput* in the preceding year. 20 were reported to have germinated, but all of them died during the year under report. In *South Arcot*, of the 90 per cent. which had germinated, only 29 seedlings, ½ to 1 foot high, now survive. In *Trichinopoly*, 75 seeds were sown, but only 25 per cent. germinated, of which 6 died. In *Tanjore*, 68 seeds were sown; 47 germinated and 36 plants are still alive, but only from 4 to 12 inches high. In *North Malabar*, 10 oz. of seeds were put down. They germinated poorly and only 14 plants survive. In *South Canara* 30 seeds were sown; 25 germinated in about a month. They grew well and were planted out in July and watered once in two days after the rains ceased, but 2 plants have since died.

Of the Egyption dates 12 seeds were sown in *Chingleput*, of which 5 germinated; 1 seedling died and 4 (6 to 9 inches high) are reported to be alive and doing well. In *North Malabar* 9 seeds of two varieties and about 2 oz. of seeds of another variety were sown. Most of them germinated, but only 5 plants survive. In *South Canara*, 15 seeds were sown; 13 germinated in about a month. Four plants have died and others are reported to be flourishing.

Date off-sets.—The results of experiments with the date off-sets obtained from Busrah in 1886-87 are as follows:—

Districts.	Number received and put down in 1886-87.	Number of casualties in 1886-87.	Number of casualties in 1887-88.	Number of casualties in 1888-89.	Number of casualties in 1889-90.	Number existing at the close of 1889-90.	Percentage of casualties during the four years.	Remarks.
Chingleput	113	4	32	12	..	65	42·5	Condition good.
North Arcot ..	100	5	2	..	3	90	10	Height from 4 to 8 feet.
South Arcot	100	5	..	..	..	95	5	Doing well.
Trichinopoly ..	124	4	4	6	7	103	16·9	7 died owing presumably to attacks by white-ants.
Tinnevelly	74	..	43	..	..	31	58·1	
Malabar (Wynaad)..	6	..	1	..	2	3	50	Made no growth whatever.

In *Tanjore*, the 175 plants which survived the planting of 1881 at Vettangudi continue to thrive. 193 off-sets were planted in October 1889 in the south date garden, of which 33 died and the rest are promising.

Divi-divi.—In *North Arcot*, ¼ an acre at Kilminnel is stocked with 837 trees, 5 years old, with an average height of 8 feet. The trees have begun to seed. In *North Coimbatore* some seeds which were sown in beds at Tallamalai about the end of December 1883 commenced germinating in January 1884. Sixteen seedlings were transplanted on the 22nd October 1884 and they have now grown 10 to 12 feet high and are about 1 foot in circumference. Their growth is slow.

Eucalyptus.—In *Chingleput*, the several varieties of seeds sown germinated, but the plants subsequently died In *North Arcot*, a nursery of *E. Resinifera* and *E. Citriodora* was formed at Palmanér. Seeds were sown in boxes and then transplanted into beds at one foot apart on 20th July 1889. The seeds of *Resinifera* which are small were probably washed away by the heavy rain which followed. Seventy-six seeds germinated, but 71 seedlings were destroyed by grass-hoppers. The remaining 5 (one inch high) were transplanted in baskets in September 1889. The seeds of *E Citriodora* which are larger germinated well within 7 days after sowing. Out of 252 seedlings 9 were destroyed by grass-hoppers and the rest (2 to 3 inches high) were transplanted in baskets in September, but 60 of them have since died. The *E. Resinifera* plants, 6 months old, measured 5 to 10 inches in height, and 9 months old from ½ to 2½ feet, while *E. Citriodora* were 6 to 12 inches high in the sixth month and 1 to 2½ feet in the ninth month. The latter species was attacked by white-ants; the Acting District Forest officer (Mr. Carroll) tried sprinkling with carbolic acid, 1 part to 10 of water, which proved injurious. The plants were then transferred to new baskets which were placed apart from one another and no white-ants appear to have attacked them since. Experiments with 11 other species of *Eucalypti* were also conducted during the year, and all, excepting *E. obliqua*, promise fairly well. The results of these experiments will be given next year. The total number of *Eucalypti* plants in the nursery is 1,721. In *South Arcot*, the 5 plants of *E. tereticornis* which were surviving on 1st April 1889 died during the year, although they were well cared for. In *North Coimbatore* three trees of *E. paniculata*, surviving out of those sown in October 1884, are from 40 to 45 feet in height and 1 to 1½ feet in circumference. In *Tinnevelly*, the *E. rostrata* continue to thrive fairly well on the Pápanásam hills at an elevation of about 3,000 feet. Trees of this species were also planted at a lower elevation (about 1,200 feet) on these hills, but they do not thrive so well. In *North Malabar* (Wynaad) the 5 large trees of *E. Marginata* (called *E. saligna* last year) continue to flourish. The dimensions of the largest trees are—

—	As per preceding year's report.		As now reported.	
	Height.	Girth.	Height.	Girth.
	FEET.	FEET.	FEET.	FEET.
No. 1	50	2½	60	3½
„ 2	42	2½	52	2½
„ 3	35	2 11/12	37	2½
„ 4	32	2	35	2½

All the trees look healthy. There are 20 trees of *E. rostrata* doing well, averaging 45 feet in height and 2½ feet in girth at 4 feet from the ground. There is one fine tree of a third species (not identified by the Acting District Forest officer) growing vigorously; it is 45 feet high with a girth of 2 feet. Of the experiments made with Queensland seeds supplied by the Board of Revenue in 1888-89 the following plants are alive:—

—	Number of plants.	Height.	Girth.
		FT. IN.	IN.
Eucalyptus robusta	3	3 2	½
Do. Corymbosa	14	7 11	4
Do. Citriodora	1	8 8	3
Do. Resinifera	3	4 3	3
Do. tereticornis	8	10 5	4½

The result of similar experiments in *South Canara* shows that *E. Resinifera* germinate freely but succumb entirely in a few weeks. *E. tereticornis* promise well at first, but after a few months also succumb suddenly. *E. Citriodora* germinate well and flourish very fairly but are generally exceedingly whippy and delicate, so that transplanting under any adverse circumstances is likely to kill them, but with care they seem likely to live. *E. Corymbosa* do fairly, at first, but while remaining healthy and strong make but little progress, and after 14 months' trial it seems doubtful whether they will finally develop a normal growth or gradually die off. *E. robusta* alone grow in a natural and vigorous manner and promise to succeed like indigenous plants.

Fourcroya.—The plants at Alagarmalai in *Madura* have grown wonderfully well.

Giant Bamboos, &c.—*Dendrocalamus Brandisii* continues to be successful in Wynaad (*North Malabar*). The stems in the largest clump in the experimental garden nursery measure 80 feet in height and 12 inches in girth. There are about 300 clumps which have been planted out and are growing satisfactorily. The rest were destroyed by cattle. Besides these, 700 plants were planted in June 1888 in Koogoorhadi (Kudrakote Forests). These plants are doing fairly well. In Kanot forest all the 34 cuttings made from the existing 5 clumps and planted out are doing well. There are several plants in the nursery which average 7 feet in height with a circumference of 1¼ inches at the base.

Four thousand five hundred and ninety-three plants of *Dendrocalamus longispathus* were planted during the year 30 feet apart in the Takals (clearings). Most of them are thriving and throwing out new shoots. They vary in height from 5 to 10 feet and in girth from 1 to 1½ inches. The 63 clumps (5 years old) of this species in the experimental garden continue to flourish The plants in the nurseries at Begur have been put out in Takals. The average height of the plants is 7 feet.

The 13 clumps of *Cephalostachyum pergracile*, referred to in the last report, are still alive, averaging 18 feet in height with a girth of 9 inches to individual culms 3,000 plants put out in the preceding year in the nurseries at Kanot are growing well. But the majority of those transplanted into the nurseries at Begur look sickly.

Of the 500 plants of *Bambusa travancorica* reported to be alive in the Kanot forest in the preceding year, some have been destroyed by cattle The plants are now 12 feet high and their culms average 3 inches in circumference. The 100 clumps in the Experimental Garden at Manantoddy, which were 20 feet high with a girth of 2¾ inches in the preceding year, are now 25 feet high with a girth of 3 inches. The clumps are vigorous and handsome.

The 8 clumps of *Golden Burmah Bamboos* continue to grow vigorously, the tallest shoots of the year averaging 32 feet high with a girth of 10 inches. The clump planted in Kanot in 1886 is now 30 feet high with a girth (of culm) of 8 inches at the base. Twenty-six cuttings made from this species are thriving well.

In short the planting up of Takals with Giant Bamboos in Kanot and Wynaad has been fairly successful

In *South Malabar* (Nilambúr) the *Giant Burmah bamboos* planted along the banks of the rivers and elsewhere in the forests continue to grow splendidly. Out of the plants raised last year, viz, *Bambusa longispathus* and *Cephalostachyum*, half were planted out in Pokate block IV. The remainder will be planted out next season in block V. The large clump of *Yellow Bamboos* and the 4 cuttings raised continue to do well. The District Forest officer does not intend propagating this species of bamboos, as they are too heavy for timber-floating purposes, although very useful for other works.

In *South Canara*, there are 41 clumps of *Dendrocalamus longispatha* doing well at Tannir Bhavi. Some seedlings grown at Kayar Palla did not survive, apparently on account of too much clay in the soil. At Sabladi some half a dozen plants only have been raised. At Uppinangadi 1,145 plants which were ready for transplanting during the monsoon had been successfully put out in the reserved lands on the left bank of the Kennuradari, extending about four miles from a point about five miles above Uppinangadi. The cost of transport, pitting, planting, fencing and watering was Rs. 47, or not quite 8 pies per plant. In October many had culms 6 feet high. 192 were similarly put out from Parapa and were doing well in October. Twelve died since and the rest were flourishing at the end of the year.

Lagerstroemia.—The 2 plants put out in Kanot (*North Malabar*) are stunted and look sickly But in *South Malabar* (Nilambúr), the 500 plants put down by Mr Lawson in 1888, and the 19 plants planted by the District Forest officer in 1884 are vigorous and healthy.

Kigelia pinnata.—Thirty-eight at Kilminnel and 6 at Tiruvallam in *North Arcot* are doing very well and one of them began to flower during the year. Sixty young shoots have made their appearance, but have not been transplanted.

Lancewood (*Oxandra Virgata*).—Of the 9 plants reported to be alive in *North Malabar* (Wynaad) in the preceding year, 4 have died and the remainder do not promise well.

Mahogany (*Swietenia Mahogani*).—In *Chingleput*, there were 106 seedlings at the beginning of the year, of which 16 died owing to excessive heat, and the rest are promising. In *North Arcot* 17 plants (4 years old) in the Kilminnel plantation are looking well In *South Arcot* there are 176 plants, all of which, excepting those in Tiruvannámalai, are healthy In *Tanjore*, 21 plants were surviving in block No I of Vettangudi at the beginning of the year, of which 4 died during the year and the rest are doing fairly. 24 plants were put out from the nursery at Vettangudi in 1886, of which one died during the year. In the South date garden there were 20 plants, of which 11 died during the year. The average height of the existing plants is 11 feet. In *Tinnevelly* the plants in the Kongaroyakurchi and Kalianur reserves continue to do well. In *North Malabar* (Kanot) of the 120 plants which existed last year, 20 have been destroyed by the attacks of a borer, leaving 100 with an average height of 5 feet with a girth of 3 inches at base. Of the 8 plants put out in No. II plantation, 2 have died. The largest of those surviving (7 years old) is

26 feet high with a girth of 7 inches at the base. All the plants in the experimental garden look sickly and stunted. In *South Malabar* (Nilambúr), the one exceptional tree in Chattambarai, planted in 1873 (which is now believed to be the variety known as *S. Macraphyllum*) measured 75 feet in height, 68 inches girth at base and 52 inches at 5 feet from ground, as compared with 74 feet in height, 64 inches at base and 50 inches at 5 feet from ground as reported last year. The other plants in Irvillikavu, Ramalur and Panangod have, all more or less suffered from the continued attacks of the borer. More seedlings from *Macraphyllum* seed are being reared.

Manilla hemp (*Musa textilis*).—Two plants in *South Arcot* are doing well. Those in *Tinnevelly* are all in a healthy condition and some of them flowered and fruited for the first time during the year. They are now being successfully propagated by means of off-sets. In *North Malabar* (Wynaad), the plant continues to grow luxuriantly.

Olea europæa.—Of the 12 plants potted last year in *North Malabar* (Wynaad), 8 have died. The others do not grow well. They have all suffered very seriously from the attacks of a caterpillar which deprives them of all their leaves.

Peltophorum ferrugineum.—There were 24 plants in *Tanjore* (Meltottam plantation) at the beginning of the year; all are in good condition. Minimum height 9¾ feet, maximum 29 feet and girth from 11 inches to 1 foot; 11 inches at one foot from base.

Pithecolobium Saman is becoming more and more common in *North Arcot* year by year. It grows in any soil. In *South Arcot* there are 144 trees in good condition. Of the 143 trees in *North Malabar* (Wynaad), those in moist places are making fair growth, but those in drier localities are making little or no growth except individual plants whose roots have probably reached a moister sub-stratum. The largest tree is now about 40 feet high with a girth of 3¼ feet at 4 feet from the ground.

Rubber experiments.—The two trees of *Hevea brasiliensis* in the Experimental Garden at Manantoddy (*North Malabar*) grow fairly well. There are a good many Ceara rubber plants in the same garden, the largest tree measuring 38 feet high with a girth of 37 inches at 4 feet from the ground. The largest *Ficus elastica* tree in the garden is 22 feet high with a girth of 16 inches at base. The 190 plants of this species planted in June 1886, now average 5 feet in height with a girth of 4 inches at the base. As the soil is stiff clay, the plants made very little progress. There are also 200 plants (put out in July 1887) living in the Kanot forest. Their average height is 5 feet and girth 3 inches at the base.

In *South Malabar* (Nilambúr) all the different kinds of rubber trees, viz., *Castilloa*, *Hevea brasiliensis* and *Ceara* are thriving as well as can be expected. The *Landolphia florida* also continue to do well. Sappan wood (*Cæsalpinia Sappan*), of those planted in 1886 in Kanot (North Malabar) nearly 2,000 are alive. They average 2½ feet in height with a girth of 1 inch at the base. Twenty-five pounds of Sappan seeds were sown in the Takals during the year and have germinated fairly well. The height of these varies from 9 inches to 1 foot, and the circumference is about ¼ of an inch. There are besides a good many plants in the Takals which germinated from the seeds sown in 1887 and 1888.

Silk.—The Special officer's (Mr. Rego, Forest Ranger) report on sericultural operations during 1888-89 was submitted in the year under report, and will be found printed with Board's Proceedings, dated 13th September 1889, No 434 (Settlement, Land Records and Agriculture). The Government decided to make an attempt to rear tassar silk worms and has accordingly sanctioned Rs. 1,000 for expenditure during 1889-90. The Honorable Mr. J. H. Garstin, C.S I., has personally undertaken the supervision of the experiment and arranged for operations being conducted at Home's Garden, Saidápet, near Madras.

Annual Form No. 59.

Forest Department, Madras, Southern Circle.

Area of reserved Forests, 1889-90.

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Chingleput.	Saidápet..	Tandrai	664	..	..	..	664	..	....	
	Chingleput.	Tirukalikundram ..	697	..	..	..	697	..	....	
		Uragadam	540	..	..	..	540	..	....	
		Madayatúr	697	..	..	..	697	..	....	
		Vallam	1,328	..	..	..	1,328	..	....	
		Vandalúr	3,207	..	..	..	3,207	..	....	
		Venkatapuram ..	..	..	119	..	119	..	No. 138, 17th May.	
		Oratúr	..	..	312	..	312	..	No. 323, 5th November.	
		Tirutéri	..	..	272	..	272	..	No. 337, 18th November.	
	Tiruvallúr	Kumbakam	14,951	..	..	..	14,951	..	....	
		Sattiavédu	6,859	..	..	..	6,859	..	....	
		Ambakam	5,259	..	..	..	5,259	..	....	
		Aradúr	2,680	..	..	..	2,680	..	....	
		Kadúr	2,494	..	..	..	2,494	..	....	
		Ugumudi	2,874	..	..	..	2,874	..	....	
		Allikuli	5,649	..	..	..	5,649	..	....	
		Nagalapuram ..	8,345	..	..	..	8,345	..	....	
		Pulrambakam ..	577	..	..	..	577	..	....	
		Vembedu	1,075	..	..	..	1,075	..	....	
		Alamadi	1,263	..	..	..	1,263	..	....	
		Total ..	59,159	92·44	703	..	59,862	93·54		
North Arcot.	Chittoor..	Paradarami	15,042·88	..	..	..	15,042·88	..	....	
		Pachigunta	..	..	1,800	..	1,800	..	No. 190, 1st July.	
	Chandragiri.	Napier reserve ..	8,772	..	..	..	8,772	..	....	
		Mamandúr do. ..	1,776	..	..	..	1,776	..	....	
		Chamala do. ..	9,600	..	..	..	9,600	..	....	
		Panapak do. ..	6,400	..	..	..	6,400	..	....	
		Pudipatla bail ..	2,560	..	..	..	2,560	..	....	
		Gazulamandiyam ..	250	..	..	..	250	..	....	
	Palmanér.	Musalimadugu ..	9,600	..	..	..	9,600	..	....	
		Basvireddipalle ..	10,240	..	..	..	10,240	..	....	
		Peddúr	9,600	..	..	..	9,600	..	....	
		Palmanér tope ..	2	..	..	..	2	..	....	
		Nagamangalam ..	31	..	..	..	31	..	....	
		Pedugavaripalle ..	20	..	..	..	20	..	....	
		Venkatagirikotta ..	4	..	..	..	4	..	....	
		Byreddipalle	4	..	..	..	4	..	....	
	Palmanér and Gudiyátam.	Mortana	16,000	..	..	..	16,000	..	....	
		Naickaneri	6,400	..	..	..	6,400	..	....	
	Gudiyátam.	Ambúr drug	5,760	..	..	..	5,760	..	....	
		Tirnvailam plantation.	435	..	..	..	435	..	....	
		Virinjipuram ..	260	..	..	..	260	..	....	
		Cheynúr topo ..	129·98	..	..	..	129·98	..	....	
		Amundi plantation ..	160	..	..	..	160	..	....	
		Tundrayagunta topo.	2	..	..	..	2	..	....	
		Vikramasi	..	..	161	..	161	..	No. 144, 21st May.	
	Vellore ..	Ambúr fuel reserve ..	3,840	..	..	..	3,840	..	....	
		Palamadi	6,400	..	..	..	6,400	..	....	
		Ambúr tope	5	..	..	..	5	..	....	
	Pólúr ..	Carnatic Ghúr ..	7,069·17	..	..	..	7,069·17	..	....	
		Ammerdi plantation..	25	..	..	..	25	..	....	
	Vellore and Pólúr.	Tellai	15,121·01	..	..	..	15,121	..	....	
	Javadis ..	Puttúr..	12,800	..	..	..	12,800	..	....	
		Patrakad	19,200	..	..	..	19,200	..	....	
		Virappanúr	64,000	..	..	..	64,000	..	....	
	Arcot ..	Punganúr	3,743·37	..	..	..	3,743·37	..	....	
		Kilminnel plantation.	150	..	..	..	150	..	....	
		Sennaléri	..	..	1,675	..	1,675	..	No. 196, 6th July.	

Area of reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
North Arcot—*cont.*	Walájápet.	Vannivédu plantation.	30	..	..	..	30	..	....	
		Arkónam Sub-Magistrate's compound.	5	..	..	..	5	..	.. .	
		Arkónam tope ..	37	..	..	..	37	..	....	
		Gudalúr	..	..	535	..	535	..	No. 42, 11th February.	
		Anantapuram or Uriúr.	..	..	540	..	540	..	No. 43, 11th February.	
		Ammanúr	..	..	203	..	203	..	No. 44, 11th February.	
	Wandiwash.	Brammakatéri ..	635·01	..	..	..	635·01	..	....	
		Total ..	236,109·42	368·92	4,914	..	241,023·42	376·60		
South Arcot.	No. I, Tiruvannamalai.	Annamalai	1,760	..	* 880	..	2,640	..	*	* Result of correction.
		Chinnasamudram ..	6,018·81	..	..	* 2,249·81	3,769	..	....	
		Mudenai	4,000·33	..	* 2,463·67	..	6,464	..	....	
		Perungolatúr Swamimalai.	9,000	..	* 312	..	9,312	..	....	
		Anandavadi	6,000	..	* 2,672	..	8,672	..	....	
		Kavuttumalai ..	6,000·33	..	* 4,031·67	..	10,032	..	....	
		Tippakadu	6,001·42	..	..	* 1,457·42	4,544	..	....	
		Siruvadi	3,335·31	..	* 1,272·69	..	4,608	..	....	
		Muttakadu	3,094·76	..	* 958·24	..	4,053	..	....	
		Karai	1,345·65	..	* 351·35	..	1,697	..	....	
		Kurumbaram, second bit.	150	..	* 42	..	192	..	....	
		Kumalampatti ..	1,221·74	..	..	* 20·74	1,201	..	....	
		Sevur	1,207·74	..	..	* 7·74	1,200	..	....	
	No. II, Tindivanam.	Vonmaniyattúr or Bomnatur.	302·14	..	* 183·86	..	486	..	....	
		Saram	251·03	..	..	* 8·03	243	..	....	
		Salavadi	70	..	..	* 6	64	..	....	
		Jakkampettai ..	300·16	..	..	* ·16	300	..	....	
		Agaram	601·20	..	..	* 1·20	600	..	....	
		Merkanam	80·60	..	..	* ·60	80	..	....	
		Adikuppam	150	..	..	..	150	..	....	
		Ashikadu	450	..	..	..	450	..	....	
	No. III, Villupuram.	Gangavaram	8,740	..	* 4,536	..	13,276	..	....	
		Nabob's tope	..	..	70	..	70	..	No. 334, 18th November.	
		Adanúr	..	..	1,491	..	1,491	..	No. 21, 20th December.	
	No. IV, Cuddalore.	Sammattikuppam ..	..	..	364	..	364	..	No. 8, 23rd December.	
		Vadakottai, third bit or Marangur.	..	..	224	..	224	..	No. 164, 10th June.	
		Total ..	60,081·22	93·88	19,852·48	3,751·70	76,182	119·03		
Salem.	Salem ..	Bodamalai	5,600	..	..	..	5,600	..	....	
		Atúr ghât	3,142	..	..	..	3,142	..	....	
		Nartanchedu	2,400	..	..	..	2,400	..	....	
		Vaniyar	4,512	..	..	..	4,512	..	....	
		Kutar	3,795	..	..	..	3,795	..	....	
		Manjavadi ghât ..	8,461	..	..	..	8,461	..	....	
		Ajjampatti	1,920	..	..	..	1,920	..	....	
		Nartanchedu extension.	1,088	..	..	..	1,088	..	....	
		Yerimalai	3,520	..	..	..	3,520	..	....	
		Kanavoipudúr ..	3,200	..	..	..	3,200	..	....	
		Lokúr	5,312	..	..	..	5,312	..	....	
		Pillapallikombai, new.	2,080	..	..	..	2,080	..	....	
		Atúr ghât extension..	544	..	..	..	544	..	....	
		Kanjori, new ..	4,032	..	..	..	4,032	..	....	
		Pannikaradu ..	4,832	..	..	..	4,832	..	....	
		Mallápuram ..	589	..	..	..	589	..	....	
		Karavattuparai ..	1,800	..	..	..	1,800	..	....	
		Gundakal	..	..	4,000	..	4,000	..	No. 229, 30th July.	

Area of reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Salem—*cont.*	Salem—*cont.*	Manakondamalai ..	..	..	5,500	..	5,500	..	No. 233, 30th July.	
		Godumalai	..	..	7,000	..	7,000	..	No. 206, 15th July.	
		Jalluttu	..	..	12,000	..	12,000	..	No. 232, 30th July.	
	Atúr ..	Varagúr	2,675	..	..	..	2,675	..	....	
		Nayaken kombai ..	2,880	..	..	..	2,880	..	....	
		Bylúr	6,880	..	..	..	6,880	..	....	
		Nagúr	3,757	..	..	..	3,757	..	....	
	Námakal.	Jambuttu	2,617	..	..	..	2,617	..	....	
		Puliyanshola	5,530	..	..	..	5,530	..	....	
	Atúr and Námakal	Karavalli kombai ..	8,755	..	..	..	8,755	..	....	
	Uttankarai.	Pallipatti	8,000	..	..	..	8,000	..	....	
		Thambakal	7,757	..	..	..	7,757	..	....	
		Chittori	3,917	..	..	..	3,917	..	....	
		Chittilingi	6,880	..	..	..	6,880	..	....	
		Kottapatti	8,960	..	..	..	8,960	..	....	
		Puvampatti	4,672	..	..	..	4,672	..	....	
		Singarapet	2,624	..	..	..	2,624	..	....	
		Mallápuram extension	400	..	..	..	400	..	....	
	Tirupatúr.	Mangalam	6,080	..	..	..	6,080	..	....	
		Nagalutlu	2,560	..	..	..	2,560	..	....	
		Mambakam	9,370	..	..	..	9,370	..	....	
		Pungolam	7,834	..	..	..	7,834	..	....	
		Madukadappu ..	2,048	..	..	..	2,048	..	....	
		Jalárpet	1,216	..	..	..	1,216	..	....	
		Narasingapuram ..	2,048	..	..	..	2,048	..	....	
		Kalarapatti	2,016	..	..	..	2,016	..	....	
		Alangayam	11,520	..	..	..	11,520	..	....	
	Tirupatúr and Uttankarai.	Singarapet extension	7,398	..	..	..	7,398	..	....	
	Tirupatúr and Krishnagiri.	Kotúr	3,840	..	..	..	3,840	..	....	
	Hosúr ..	Ayyúr	5,952	..	..	..	5,952	..	....	
		Marandahallo ..	5,824	..	..	..	5,824	..	....	
		Gulhatti, now ..	7,942	..	..	..	7,942	..	....	
		Manchi, new	5,632	..	..	..	5,632	..	....	
		Jowlagiri	6,016	..	..	..	6,016	..	....	
		Talli	6,368	..	..	..	6,368	..	....	
		Naganúr	3,200	..	..	..	3,200	..	....	
		Denkanikotta ..	2,816	..	..	..	2,816	..	....	
		Toluvabetta	6,918	..	..	..	6,918	..	....	
		Anchetti	8,832	..	..	..	8,832	..	....	
		Natrapalaiyam ..	10,880	..	..	..	10,880	..	....	
		Biligundla	14,272	..	..	..	14,272	..	....	
		Kestúr	11,616	..	..	..	11,616	..	....	
		Billikal	11,136	..	..	..	11,136	..	....	
		Mallahalli	8,928	..	..	..	8,928	..	....	
		Taggatti	10,432	..	..	..	10,432	..	....	
	Dharmapuri.	Pennagaram	10,304	..	..	..	10,304	..	....	
		Mórappúr	16,640	..	..	..	16,640	..	....	
	Hosúr and Dharmapuri.	Woddapatti	17,152	..	..	..	17,152	..	....	
		Gutirayen	15,776	..	..	..	15,776	..	....	
	Krishnagiri.	Bargur, new	1,920	..	..	..	1,920	..	....	
		Togarapalli	901	..	..	..	901	..	....	
	Tiruchengód.	Pakkanád	4,500	..	..	..	4,500	..	....	
		Total ..	383,018	598·47	28,500	..	411,518	643·00		
Trichinopoly.	Trichinopoly.	Tuvakudi	1,438	..	..	..	1,438	..	....	
	Kulitalai..	Elamanúr	117·10	..	..	..	117·10	..	....	
		Pettuvoitalai	137	..	..	..	137	..	....	
		Kulitalai	77·18	..	..	..	77·18	..	....	
		Manatattai	44·86	..	..	..	44.86	..	....	
		Lalapet	268·20	..	..	..	268·20	..	....	

Area of reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Trichinopoly—*cont.*	Kulitalai —*cont.*	Sittalavoi	160·32	..	..	..	160·32	..	....	
		Kattalai	74·35	..	..	..	74·35	..	....	
		Tainimalai	464	..	..	..	464	..	....	
		Minnakaradu ..	98	..	..	..	98	..	....	
		Panjantangi	1,543	..	..	..	1,543	..	....	
		Veeramalai Hills ..	5,471·98	..	..	..	5,471·98	..	....	
		Poyapatti Hills ..	639	..	..	..	639	..	....	
		No. 1. Shemmalai ..	2,476·56	..	..	..	2,476·56	..	....	
		Pakkirikaradu ..	65	..	..	..	65	..	....	
		Puttanatam range comprising Kurumalai, Palamalai and Nadumalai.	705·25	..	..	..	705·25	..	....	
		Surpam range ..	1,402·95	..	..	..	1,402·95	..	....	
		Mathalamalai ..	465·25	..	..	..	465·25	..	....	
	Musiri ..	Sengattupatti ..	3,000	..	..	..	3,000	..	....	
		Melúr	3,000	..	..	..	3,000	..	....	
		Kaliyammankovil tittu.	1,500	..	..	..	1,500	..	....	
		Karuppankadu tittu..	2,000	..	..	..	2,000	..	....	
		Kanapadikannimar solai.	2,560	..	..	..	2,560	..	....	
		Kanapaditempornad.	12,000	..	..	..	12,000	..	....	
		Palamalai	10,000	..	..	..	10,000	..	....	
	Perambalúr.	Manalodai	4,000	..	..	..	4,000	..	....	
		Salamatti	7,000	..	..	..	7,000	..	....	
		Selaiyúr	1,600	..	..	..	1,600	..	....	
		Puliyúr	10,000	..	..	..	10,900	..	....	
		Semmalai	5,000	..	..	..	5,000	..	....	
		Sengattúr	10,000	..	..	..	10,000	..	....	
	Udayárpálaiyam.	Adanakurichi.. ..	..	..	250	..	250	..	No. 195, 6th July.	
		Malangankudiyiruppu	..	..	150	..	150	..	No. 199, 6th July.	
		Total ..	87,308	136·42	400	..	87,708	137·05		
Tanjore.	Southern.	Block No. 2, Meltottam, eastern block.	10	..	..	..	10	..	....	
		Block No. 2, Meltottam, western block.	8	..	..	..	8	..	....	
		Manakádu	120	..	..	..	120	..	....	
		Tulanayár	2,000	..	..	..	2,000	..	....	
		Tillaivilagam ..	320	..	..	..	320	..	....	
		Nadur No. 2	200	..	..	..	200	..	....	
		Tachankurichi ..	320	..	..	..	320	..	....	
		Veralipatti, north block.	145	..	..	..	145	..	....	
		Veralipatti, south block.	234	..	..	..	234	..	....	
		Kallupatti	85	..	..	..	85	..	....	
		Kollangarai	458	..	..	..	458	..	....	
		Puttúr No. I ..	191	..	..	..	191	..	....	
		Nadur „ I ..	..	..	1,000	..	1,000	..	No. 110, 20th April.	
		Puttúr „ II ..	119	..	..	..	119	..	....	
	Northern.	Northern casuarina ..	350	..	..	..	350	..	....	
		Southern do. ..	250	..	..	..	250	..	....	
		Neduvasal	42	..	..	..	42	..	....	
		Total ..	4,852	7·58	1,000	..	5,852	9·14		
North Coimbatore.	Kollegál..	Jadatalahulla ..	361·01	..	..	..	361·01	..		
		Udayárpálaiyam ..	296·63	..	..	..	296·63	..	....	
		Bailúr	1,186·39	..	..	..	1,186·39	..	....	
	Satyamangalam.	Gormalam	519·78	..	..	..	519·78	..	....	
		Vellamundi	12,800	..	..	..	12,800	..	....	
		Eastern slopes of Nilgiris.	60,800	..	..	..	60,800	..	....	
									....	
		Total ..	75,963·81	118·69	..	..	75,963·81	118·69		

Area of reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
South Coimbatore.	No. I Tunakadavu.	Anaimalai No. I ..	* 52,480	..	..	..	* 52,480	..	....	* Includes Tekadi leased Forests of 26 square miles.
	No. III Punachi.	Do. II ..	3,140	..	..	..	3,140	..	....	
	No. IV Udamalpet.	Do. III ..	47,360	..	..	..	47,360	..	....	
	No. II Polláchi and IV Udamalpet.	Anaimalais	133,120	..	..	..	133,120	..	....	
	No. VII Bolampatti.	Bolampatti block No. I.								
		Bolampatti block No. II.	47,680	..	..	..	47,680	..	....	
		Bolampatti block No. III.								
		Tadagam No. IV ..	30,720	..	..	..	30,720	..	....	
	No. VI Mettupálaiyam.	Gopanéri .. No. V								
		Kempampalaiyam „ VI	38,200	..	..	..	38,200	..	....	
		Nellitorai No. VII								
		Odantorai „ VIII	5,880	..	..	..	5,880	..	....	
		Modúr „ IX	3,600	..	..	..	3,600	..	....	
	No. VIII Sholakarai.	Small Sholakarai reserve.	..	..	81	..	81	..	No. 167, 17th June.	
		Total ..	362,180	565·91	81	..	362,261	566·03		
Madura.	Uttamapalaiyam or No. I.	Vannatiparai ..	27,481·6	..	..	..	27,481·6	..	....	
		Suranganar	3,616	..	..	..	3,616	..	....	
		Melajudalúr	1,280	..	..	..	1,280	..	....	
		Machakal	2,560	..	..	..	2,560	..	....	
		Kuttinachiyar ..	640	..	..	..	640	..	....	
		Pandaratorai ..	300	..	..	..	300	..	....	
		Surulipatti	5,760	..	..	..	5,760	..	....	
		Tambirankanal ..	250	..	..	..	250	..	....	
		Jungle Conservancy.								
	Palni Hill or No. II.	Pambar	4,755·2	..	..	..	4,755·2	..	....	
		Sengalvarai ár ..	5,209·6	..	..	..	5,209·6	..	....	
		Pumbarai Vilpatti valley.	13,587·2	..	..	..	13,587·2	..	....	
		Kudirai ár	10,060·8	..	..	..	10,060·8	..	....	
		Kukkal	9,644·8	..	..	..	9,644·8	..	....	
		Marudanadi ár ..	6,528	..	..	..	6,528	..	....	
		Pambukal ár	800	..	..	..	800	..	....	
		Siruvattukádu ..	2,279·2	..	..	..	2,279·2	..	....	
		Kaniyankadu ..	3,001·6	..	..	..	3,001·6	..	....	
		Oliyanutu odai ..	3,200	..	..	..	3,200	..	....	
		Kadugatadikadu ..	1,280	..	..	..	1,280	..	....	
		Vennilai	4,800	..	..	..	4,800	..	....	
		Ariyanutukanal ..	64	..	..	..	64	..	....	
		Kumangovaimalai kadu.	80	..	..	..	80	..	....	
		Peterankanal ..	80	..	..	..	80	..	....	
		Varattarkanal ..	200	..	..	..	200	..	....	
		Iruttarkanal ..	100	..	..	..	100	..	....	
		Nochiyar kadu ..	200	..	..	..	200	..	....	
		Talaiyar andal kovil kadu.	30	..	..	..	30	..	....	
		Talaiar kadu	150	..	..	..	150	..	....	
		Kadamaravu	50	..	..	..	50	..	....	
		Velam kombai ..	1,600	..	..	..	1,600	..	....	
		Arunkanal	..	..	2,560	..	2,560	..	No. 205, 20th July.	
		Kallar	..	..	9,600	..	9,600	..	No. 217, 24th July.	

Area of reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Madura—*cont.*	Palni Hill or No. II—*cont.*	*Sholas on the Lower Palnis.*								
		(*a*) Permalmalai shola.								
		(*b*) Togavarai shola.								
		(*c*) Siruttarkanal ..								
		(*d*) Arankanal ..								
		(*e*) Kadavu shola ..								
		Sholas on the Upper Palnis.								
		(*a*) Tiger shola ..	2,316	..	..	..	2,316	..	....	
		(*b*) Paruppar shola.								
		(*c*) Kodaikánal ..								
		(*d*) Pannituttan-kanal.								
		(*e*) Gundon and Manavan sholas								
		(*f*) Gundon shola.								
		(*g*) Sundanam shola								
		(*h*) Fort Hamilton.								
		(*i*) Mariyan shola ..								
		Plantations.								
	Dindigul or No. III.	Eucalyptus	16·62	..	..	..	16·62	..	....	
		Velamkombai ..	54·14	..	..	..	54·14	..	....	
		Pumbarai	6	..	..	..	6	..	....	
		Amburivi	3,840	..	..	..	3,840	..	....	
		Perumalmalai ..	12,800	..	..	..	12,800	..	....	
		Sirumalai	25,529·6	..	..	..	25,529·6	..	....	
		Muḍimalai	6,086·4	..	..	..	6,086·4	..	....	
		Akkamakarandu ..	1,600	..	..	..	1,600	..	....	
		Kappuravalli kuttu ..	2,560	..	..	..	2,560	..	....	
		Tenkal	3,200	..	..	..	3,200	..	....	
		Sundamalai	2,240	..	..	..	2,240	..	....	
		Tannirkaradu ..	1,920	..	..	..	1,920	..	....	
		Kadavakurichi ..	5,120	..	..	..	5,120	..	....	
		Sengattampatti ..	4,480	..	..	..	4,480	..	....	
		Buthakudimalai ..	..	..	1,600	..	1,600	..	No. 204, 19th July.	
		Alagarmalai	17,510·24	..	..	..	17,510·24	..	....	
		Vikramangalam ..	10,240	..	..	..	10,240	..	....	
		Total ..	209,107	326·73	13,760	..	222,867	348·23		
Tinnevelly.	Nángunéri,	Reserve No. I ..	31,532·80	..	..	..	31,532·80	..	....	
		Teak tract	..	..	284·26	..	284·26	..	No. 165, 10th June.	
	Ambásamudram.	Reserve No. II ..	91,008	..	..	..	91,008	..	....	
		Mullimalai	..	..	457·10	..	457·10	..	No. 307, 24th October. No. 75, 11th February.	
		Kaliyammankovil-parai.	..	..	309·33	..	309·33	..	No. 308, 24th October.	
		Koviladiparai ..	..	..	124·38	..	124·38	..	No. 309, 24th October.	
		Saluparpathai ..	..	..	70·72	..	70·72	..	No. 310, 24th October.	
	Tenkási ..	Reserve No. III ..	18,009·60	..	..	..	18,009·60	..	....	
		Okaninranpathai ..	..	..	84·76	..	84·76	..	No. 198, 6th July.	
		Kavalkattiperamba ..	..	..	374·60	..	374·60	..	No. 303, 24th October.	
		Kottamalai	..	..	859·83	..	859·83	..	No. 304, 24th October.	
		Nalankurichi ..	..	..	212·37	..	212·37	..	No. 305, 24th October.	

Area of reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Tinnevelly—*cont.*	Sankarnainárkoil.	Reserve No. IV ..	19,737·60	..	..	..	19,737·60	..	....	
	Srívilliputur.	Reserve No. V ..	23,270·40	..	..	..	23,270·40	..	....	
		Unnipattimalai ..	..	..	529·79	..	529·79	..	No. 230, 30th July.	
		Sappaniperambu ..	..	..	375·90	..	375·90	..	No. 311, 24th October.	
		Pulpadiperambu ..	..	..	50·70	..	50·70	..	No. 312, 24th October.	
		Martandamparai ..	..	..	134·51	..	134·51	..	No. 313, 24th October.	
	Tenkarai.	Pannamparai ..	..	..	116·60	..	116·60	..	No. 111, 20th April.	
		Kaliyavúr	..	..	158·07	..	158·07	..	No. 197, 6th July.	
		Kottamadukkikadu ..	..	..	1,279·23	..	1,279·23	..	No. 306, 24th October.	
		Total ..	183,558·40	286·81	5,422·15	..	188,980·55	295·28		
		Ernád taluk.								
North Malabar.	Chedlot reserved Forest.	Kuppadi	7,337·44	..	..	..	7,337·44	..	....	
		Kurchiyat	18,053·86	..	..	..	18,053·86	..	....	
		Rampur	18,854·67	..	..	..	18,854·67	..	....	
	Trans Boni.	Nulpoya	3,613·28	..	..	..	3,613·28	..	....	
		Mavanhulla	12,576·64	..	..	..	12,576·64	..	....	
		Begur	15,366	..	..	..	15,366	..	....	
		Total ..	75,801·89	118·44	..	..	75,801·89	118·44		
South Malabar.	Nilambúr.	Amarampalaiyam ..	468·04	..	..	..	468·04	..	....	Leased Forests.
	Amarampalaiyam	Chatambarai	699·52	..	..	..	699·52	..	....	Do.
		Karimpoya	3,955·28	..	..	..	3,955·28	..	....	Do.
		Nellikutta	1,824·13	..	..	..	1,824·13	..	....	Do.
	Pálghat ..	Wálayár	3,017·00	..	..	..	3,017·00	..	....	Purchased outright.
		Chenat nair	15,203·00	..	..	..	15,203·00	..	....	Escheat lands.
		Total ..	25,166·97	39·32	..	..	25,166·97	39·32		
South Canara.	Kondapur.	No. I, Sabbadi ..	208	..	..	..	208	..	....	
		,, II, Ajjarkadu ..	160	..	..	..	160	..	....	
		,, III, Pillarkhan ..	320	..	..	..	320	..	....	
		,, VI, Manajikadu.	422·73	..	..	..	422·73	..	....	
		,, VIII, Chinkramallo.	2,560	..	..	..	2,560	..	....	
		,, XIV, Durgamalai.	..	..	1,601·24	..	1,601·24	..	No. 362, 28th November.	
	Mangalore.	Nos. IV and V, Poitaji and Kayarpalli.	96	..	..	..	96	..	....	
		No. V, Ullal casuarina and Honne plantations	57·11	..	..	..	57·11	..	....	
		,, VI, Chembuguddo.	75	..	..	..	75	..	....	
		,, VII, Kutiyar ..	25	..	..	..	25	..	....	
		,, X, Tannir Bavi.	69·99	..	..	..	69·99	..	....	
		,, XII, Hosabetta ..	376·01	..	..	..	376·01	..	....	
	Uppinangadi.	No. I, The Sirudisisla reserve.	19,200	..	..	..	19,200	..	....	
		,, IV, Bhagimalai ..	6,400	..	..	..	6,400	..	....	
		Total ..	29,969·84	46·82	1,601·24	..	31,571·08	49·33		
		Grand Total ..	1,792,275·55	2,800·43	76,233·87	3,751·70	1,864,757·72	2,913·68		

Abstract.

District.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.	
	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.
Chingleput	59,159	92·44	703	..	59,862	93·54
North Arcot	236,109·42	368·92	4,914	..	241,023·42	376·60
South Arcot	60,081·22	93·88	19,852·48	3,751·70	76,182	119·03
Salem	383,018	598·47	28,500	..	411,518	643·00
Trichinopoly	87,308	136·42	400	..	87,708	137·05
Tanjore	4,852	7·58	1,000	..	5,852	9 14
North Coimbatore	75,963·81	118·69	..	..	75,963·81	118·69
South Coimbatore	362,180	565·91	81	..	362,261	566·03
Madura	209,107	326·73	13,760	..	222,867	348·23
Tinnevelly	183,558·40	286·81	5,422·15	..	188,980·55	295·28
North Malabar	75,801·89	118·44	..	..	75,801·89	118·44
South Malabar	25,166·97	39.32	..	..	25,166·97	39·32
South Canara	29,969·84	46·82	1,601·24	..	31,571·08	49·33
Total ..	1,792,275·55	2,800·43	76,233·87	3,751·70	1,864,757·72	2,913·68

Annual Form No. 59.

Forest Department, Madras, Southern Circle.

Area of Reserved Lands, 1889-90.

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Chingleput.	Tiruvallûr	Palavakam	2,511	..	..	..	2,511	..	....	
		Mylapur	926	..	4	..	930	..	....	Added at settlement.
		Attantangal	..	..	268	..	268	..	No. 46, 21st Jan.	
		Nayar	..	..	300	..	300	..	,, 14, 20th Dec.	
		Erumaivettipalaiyam.	..	..	565	..	565	..	,, 16, ,, ,,	New areas.
		Kavalûr	..	..	240	..	240	..	,, 17, ,, ,,	
		Manali	..	..	1,485	..	1,485	..	,, 12, ,, ,,	
		Nemali	633	..	..	..	633	..	....	
		Alapakam	486	..	..	..	486	..	....	
		Kuttrambakam A ..	121	..	5	..	126	..	....	Added at settlement.
		Do. B ..	211	..	..	6	205	..	....	Excluded at settlement.
		Puduppûr	376	..	..	1	375	..	....	
		Mannûr	570	..	..	..	570	..	....	
		Nallûr	937	..	..	..	937	..	....	
		Maganiyam	942	..	4	..	946	..	....	Added at settlement.
		Kalvayi	139	..	..	1	138	..	....	Excluded at settlement.
		Kolattûr	1,899	..	10	..	1,909	..	....	Added at settlement.
		Kayar	643	..	..	1	642	..	....	Excluded at settlement.
		Sonallûr	1,119	..	..	12	1,107	..	....	
		Venkatapuram ..	110	..	..	119	..	..	No. 138, 17th May	Transferred to reserved forests.
		Tiruttêri	272	..	..	272	..	..	,, 337, 18th Nov.	
		Orattûr	312	..	..	312	..	..	,, 323, 5th ,,	
		Anjûr	1,507	..	7	..	1,514	..	....	Added at settlement.
		Tirumani	639	..	..	..	639	..	....	
		Gûdalûr	2,744	..	..	..	2,744	..	....	
		Senkundram	1,236	..	..	4	1,232	..	....	Excluded at settlement.
		Kolatûr *alias* Appur..	1,441	..	8	..	1,449	..	....	Added at settlement.
		Paranûr	378	..	..	..	378	..	....	
		Kotankolatur ..	537	..	..	2	535	..	....	Excluded at settlement.
	Chingleput.	Kavanur	568	..	1	..	569	..	....	Added at settlement.
		Siruvanjûr	465	..	..	..	465	..	....	
		Vattambakam ..	694	..	..	..	694	..	....	
		Vadakkupattu ..	728	..	67	..	795	..	....	Added at settlement.
		Taiyûr	1,084	..	..	..	1,084	..	....	
		Mambakam	766	..	..	..	766	..	....	
		Unamanjeri	..	..	752	..	752	..		
		Kumili	..	..	683	..	683	..		
		Kattûr	..	..	2,804	..	2,804	..		
		Alattûr	..	..	488	..	488	..	No. 168, 17th June.	Transferred from other forests and notified under section 4.
		Illalûr	..	..	702	..	702	..		
		Sirukunram A ..	..	..	872	..	872	..		
		Do. B ..	..	..	378	..	378	..		
		Hanumantaputteri ..	..	..	284	..	284	..		
		Acharapakam ..	864	..	..	..	864	..	....	
		Lattûr	1,011	..	..	..	1,011	..	....	
		Nedumaram	198	..	..	..	198	..	....	
		Venmani	238	..	..	..	238	..	....	
		Madaiyambakam ..	241	..	..	..	241	..	....	
		Settamai	135	..	..	..	135	..	....	
		Kattugudalûr ..	4,273	..	..	..	4,273	..	....	
		Rajapalaiyam ..	806	..	..	..	806	..	....	
		Korumbarai	250	..	..	..	250	..	....	
		Endattûr	168	..	..	..	168	..	....	
		Tandalam	1,428	..	..	..	1,428	..	....	
		Sirunallûr	503	..	..	..	503	..	....	
		Kannimangalam ..	142	..	..	..	142	..	....	
		Nariyamputtûr ..	326	..	..	..	326	..	....	
		Karukuli	600	..	..	..	600	..	....	
		Kadalamangalam ..	731	..	..	..	731	..	....	
		Vadatanûr	1,078	..	..	..	1,078	..	....	
		Vinayaganullûr ..	127	..	..	..	127	..	....	
		Kunamkolatûr ..	106	..	..	..	106	..	....	
		Bapanallûr	538	..	..	..	538	..	....	
		Mudukadu	86	..	..	..	86	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Chingleput—*cont.*	Saidápet.	Pullikaradu	..	..	176	..	176	..		
		Tambaram	..	..	262	..	262	..		
		Kadapperi	..	..	229	..	229	..		
		Selaiyúr	..	..	492	..	492	..		
		Madurapakam ..	..	..	359	..	359	..		
		Nanmangalam ..	..	..	333	..	333	..		
		Mudambakam ..	..	..	567	..	567	..		
		Eurumaiyur	..	..	197	..	197	..		
		Arasankulam ..	..	..	187	..	187	..	No. 108, 24th April.	Transferred from other forests and notified under section 4.
		Perumbakam A ..	..	..	639	..	639	..		
		Do. B ..	..	..	117	..	117	..		
		Maiyúr	..	..	534	..	534	..		
		Kovilpadagai ..	..	..	377	..	377	..		
		Sikkarayapuram ..	..	..	100	..	100	..		
		Kuttambakam ..	..	..	300	..	300	..		
		Millamalai	..	..	262	..	262	..		
		Tirumalavayal ..	..	..	389	..	389	..		
		Nandrambakam ..	..	..	262	..	262	..	No. 162, 13th June.	
		Tirusulam	..	..	270	..	270	..		
		Total ..	38,852	60·71	16,059	730	54,181	84·66		
North Arcot.	Chittoor ..	Virasettipalli ..	7,587	..	..	..	7,587	..	....	
		Chittapara	4,850	..	..	..	4,850	..	....	
		Basavapalli	2,027	..	..	..	2,027	..	....	
		Mahimandalam ..	2,522	..	..	..	2,522	..	....	
		Pachigunta	1,800	..	..	1,800	..	..	No. 190, 1st July.	Transferred to reserved forests.
		Irala	16,130	..	..	..	16,130	..	....	
		Santapet	2,276	..	..	..	2,276	..	....	
		Chittúr	360	..	..	..	360	..	....	
		Kinatipalli	1,417	..	..	..	1,417	..	....	
		Chillapalli	1,296	..	..	..	1,296	..	....	
		Panamúr	6,400	..	..	..	6,400	..	....	
		Mamandúr extension.	8,000	..	..	..	8,000	..	....	
	Chendragiri.	Tirupati Hill ..	16,000	..	..	..	16,000	..	....	
		Balapalli	40,640	..	..	..	40,640	..	....	
		Nagapatla	8,320	..	..	..	8,320	..	No. 86, 31st Feb.	Notified under section 4 during 1889-90.
		Mungilpattu	23,040	..	..	..	23,040	..	„ 84, „ „	
	Palmanér.	Charagal	19,200	..	..	..	19,200	..	....	
		Podnaigdrug ..	12,800	..	..	..	12,800	..	....	
		Panamadangi ..	9,600	..	..	..	9,600	..	....	
		Paradarami extension.	2,500	..	..	..	2,500	..	....	
		Sinnagunta	6,400	..	..	..	6,400	..	....	
		Naickaneri	1,280	..	..	..	1,280	..	....	
	Gudiyátam.	Mortana	9,600	..	..	..	9,600	..	....	
		Vikramasi	161	..	..	161	..	..	No. 144, 21st May.	Transferred to reserved forests.
	Vellore ..	Gundalapalli ..	2,620	..	20,400	..	*23,020	..	No. 42, 21st Jan.	* Notified under section 4 during 1889-90.
		Pattalakuppam ..								
		Karapatla								
		Ambur extension ..	25,600	..	..	..	25,600	..	....	
		Arasampet	18,000	..	..	..	18,000	..	....	
		Javadi Hill block ..	20,400	..	..	..	20,400	..	....	
		Arasampet do. ..								
		Naickaneri do. ..								
	Pólúr ..	Kelur	3,537	..	..	..	3,537	..	....	
		Alleyamangalam ..	10,062	..	..	..	10,062	..	....	
		Kapalur	1,267	..	..	..	1,267	..	....	
		Malayalam	12,800	..	..	..	12,800	..	....	† Designated the slopes of Javadi Hill in the previous year's return.
		Santavasal	†19,200	..	6,300	..	*25,500	..	....	
		Mulakadu								
	Arcot ..	Satur	1,048	..	..	..	1,048	..	....	
		Sennaleri	1,675	..	..	‡ 1,675	..	..	No. 196, 6th July.	
		Enadivadi	1,567	..	..	..	1,567	..	....	
		Tandalappantangal ..	1,112	..	..	..	1,112	..	....	‡ Transferred to reserved forests.
		Sholavaram	1,232	..	..	..	1,232	..	....	
		Amur	6,020	..	..	..	6,020	..	....	
		Kolatur	1,779	..	..	..	1,779	..	....	
		Minnel	1,378	..	..	..	1,378	..	....	
	Wálajáh.	Gúdalúr	535	..	..	535	..	..	No. 42, 11th Feb.	Transferred to reserved forests.
		Banavaram	1,061	..	..	..	1,061	..	....	
		Ammanur	203	..	..	203	..	..	No. 44, 11th Feb.	Transferred to reserved forests.
		Anantapuram of Uraiyur.	540	..	..	540	..	..	No. 43, 11th Feb.	
		Vadantangal	64	..	..	..	64	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
North Arcot—*cont.*	Wálajáh—*cont.*	Balakrishnapuram ..	63	..	..	..	63	..	..	
		Katapakam	145	..	..	..	145	..	..	
		Ayal	16	..	..	..	16	..	..	
		Banavaram	35	..	..	..	35	..	..	
		Head Assistant Collector's office compound.	4	..	..	..	4	..	..	
	Wandiwash.	Venkundram	1,288	..	..	..	1,288	..	..	
		Pennúr	939	..	..	..	939	..	..	
		Badúr	873	..	..	..	873	..	..	
		Nambédu	720	..	..	..	720	..	..	
		Kadiyalam	125	..	..	..	125	..	..	
		Nedungunam ..	1,797	..	..	..	1,797	..	..	
		Veshamangalam ..	1,148	..	..	..	1,148	..	..	
		Nedungal	3,645	..	..	..	3,645	..	..	
		Total ..	346,694	541·71	26,700	4,914	368,480	575·75		
South Arcot.	No. I, Tiruvannámalai.	Valasamalai ..	7,000	..	* 5,738	..	12,738	..	..	* Result of correction.
		Tenmalai	20,000	..	*30,428	..	50,428	..	..	
		Pelamandur or Garugamandiyar	8,000	..	* 1,148	..	9,148	..	..	
		Nallapattu	7,000	..	..	* 252	6,748	..	..	
		Melchougam ..	..	..	2,000	..	2,000	..	Board's Proceedings, Forest No. 122 of 28th Feb. 1890.	
		Pinjúr	..	..	8,640	..	8,640	..		
		Mannurmangalam ..	..	..	4,160	..	4,160	..		
		Eraiyurmalai ..	..	..	7,125	..	7,125	..		
		Uchimalai	..	..	3,500	..	3,500	..		
		Puwalai	..	..	3,200	..	3,200	..		
		Ráyandapuram ..	..	..	7,000	..	7,000	..		
		Sinniyampettai ..	..	..	3,720	..	3,720	..		
		Kanji	..	..	3,040	..	3,040	..		
		Gungampattu ..	..	..	1,920	..	1,920	..		
		Sorakalattúr ..	..	..	7,600	..	7,600	..		
		Devanandal ..	..	..	2,000	..	2,000	..		
		Kadambai	..	..	2,000	..	2,000	..		
		Tachampet	..	..	2,300	..	2,300	..		
	No. II, Tindivanam.	Pudipallam	3,748	..	* 646	..	4,394	..	..	
		Pakkamalai ..	9,032	..	* 5,862	..	14,894	..	..	
		Kurumpuram, 1st bit.	300	..	* 256	..	556	..	..	
		Panchalam ..	1,200	..	..	* 10	1,190	..	..	
		Peradikuppam ..	1,402	..	..	* 673	729	..	..	
		Akkúr	1,200	..	* 150	..	1,350	..	..	
		Naduvandúr ..	2,808	..	..	* 8	2,800	..	..	
		Nabob's tope ..	40	..	* 30	† 70	..	..	No. 334, 16th Nov.	† Transferred to reserved forests.
	No. III, Villupuram.	Panampattu ..	254	..	* 597	..	851	..	..	
		Valudareddi ..	125	..	* 259	..	384	..	..	
		Kappiamboliyúr ..	507	..	* 305	..	812	..	..	
		Gangarampalaiyam ..	349	..	* 163	..	512	..	..	
		Vakkúr	193	..	* 191	..	384	..	..	
		Vikravandi	311	..	..	* 55	256	..	..	
		Melkondai	496	..	..	* 16	480	..	..	
		Satanúr, 1st bit	226	..	..	* 22	204	..	..	
		Narasinganur ..	377	..	* 51	..	428	..	..	
		Gundalapuliyur ..	882	..	* 58	..	940	..	..	
		Karanai	200	..	..	* 72	128	..	..	
		Satanur, 2nd bit	228	..	* 92	..	320	..	..	
		Adanur	1,447	..	* 44	† 1,491	..	..	No. 21, 20th Dec.	
		Ariyalur	350	..	* 686	..	1,036	..	..	
		Turinjikadu	700	..	* 153	..	853	..	..	
		Pulanjimalai	438	..	* 415	..	853	..	..	
		Tandavasamudram ..	2,000	..	* 112	..	2,112	..	..	
		Ramapuram	1,330	..	* 538	..	1,868	..	..	
		Vellakarai	1,604	..	..	* 36	1,568	..	..	
		Valudalampattu ..	900	..	* 8	..	908	..	..	
		Sammatikuppam ..	350	..	* 14	† 364	..	..	No. 8, 23rd Dec.	
	No. IV, Cuddalore.	Siruvattur	..	..	212	..	212	..	Board's Proceedings, Forest No. 122 of 28th Feb. 1890.	
		Ilenganadapuram ..	..	..	620	..	620	..		
		Puvamkuppam ..	..	..	640	..	640	..		
		Selambanadampet ..	650	..	* 130	..	780	..	..	
		Marungur	400	..	..	† 224 * 176	..	..	No. 164, 10th June.	
		Vegakottai	600	..	..	* 120	480	..		

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
South Arcot—*cont.*	No. IV, Cuddalore—*cont.*	Vakakottu, 1st bit ..	2,399	..	* 685	..	3,084	..	....	
		Valudayampattu ..	1,699	..	..	* 163	1,536	..	....	
		Paramattûr	1,700	..	..	* 664	1,036	..	....	
		Kanjiruppu, 1st bit ..	2,000	..	* 956	..	2,956	..	....	
		Do. 2nd do. ..	1,240	..	* 1,279	..	2,519	..	....	
		Velankuppam ..	1,000	..	* 94	..	1,094	..	....	
		Talankoda	201	..	* 16	..	217	..	....	* Result of correction.
		Fort Saint David ..	45	..	..	* 20	25	..	....	
		Shonankuppam ..	195	..	..	* 55	140	..	....	
		Doni Doral	80	..	* 103	..	192	..	....	
		Nochikadu	550	..	* 90	..	640	..	....	
		Periyakuppam ..	1,599	..	* 84	..	1 683	..	....	
	No. IV, Chidambaram.	Adivarahanullur ..	..	..	1,860	..	1,860	..	Bd.'s Proceedings, Forest No. 122 of 28th February 1890.	
		Nisengam	..	..	800	..	800	..		
		Rampakam	..	..	635	..	635	..		
		Kindapuram	..	..	972	..	972	..		
		Kolakudi	..	..	659	..	659	..		
		Nayanur	1,650	..	* 384	..	2,034	..	....	
		Adukkam	1,800	..	* 369	..	2,169	..	....	
		Attipakam	2,000	..	* 2,800	..	4,800	..	....	
		Swamimalai, 1st bit ..	1,500	..	* 3,141	..	4,641	..	....	
		Do. 2nd do. ..	2,500	..	* 3,080	..	5,580	..	....	
		Nattamur, 1st bit ..	4,000	..	* 761	..	4,761	..	....	
		Do. 2nd do. ..	3,000	..	* 1,000	..	4,000	..	....	
		Sidevi	3,000	..	* 1,243	..	4,243	..	....	
		Alwarmalai	5,000	..	* 3,950	..	8,950	..	....	
		Sirupakkam	1,000	..	* 228	..	1,228	..	....	
		Edakkal	1,900	..	* 1,842	..	3,742	..	....	
		Kutadi	2 000	..	..	* 234	1,766	..	....	
	No. V, Tirukoilûr.	Pandur	1,000	..	..	..	1,000	..	....	
		Velur	550	..	* 1,254	..	1,804	..	....	
		Perichanur	700	..	* 228	..	928	..	....	
		Volandai	..	..	1,200	..	1,200	..	Bd.'s Proceedings, Forest No. 122 of 28th February 1890.	
		Sengamédu	..	..	755	..	755	..		
		Settamur	..	..	1,510	..	1,510	..		
		Odiyattur	..	..	1,696	..	1,696	..		
		Emappur	..	..	340	..	340	..		
		Mambakam	..	..	480	..	480	..		
		Elandorai	..	..	307	..	307	..		
		Tiruvananallur ..	..	..	240	..	240	..		
		Kalamaradur ..	..	..	1,350	..	1,350	..		
		Kungagaram ..	..	..	5,090	..	5,090	..		
		Pachaipalayam ..	..	..	1,600	..	1,600	..		
		Kallamodu	..	..	1,235	..	1,235	..		
		Periyanessalur ..	..	..	720	..	720	..		
		Javadugudi	..	..	650	..	650	..		
		Sattiyam	..	..	416	..	416	..		
	No. VII, Vriddhâchalam.	Vriddhâchalam tank.	..	..	192	..	192	..		
		Kamnapuram ..	..	..	1,800	..	1,800	..		
		Narimanam	..	..	640	..	640	..		
		Periyakurchi ..	..	..	360	..	360	..		
		Volankulam	..	..	1,390	..	1,390	..		
		Kattiyanallur ..	..	..	960	..	960	..		
		Total ..	120,963	189·00	159,195	4,724	275,434	430·37		
Salem ..	Atûr ..	Pattimedu	3,046	..	..	..	3,046	..	....	
		Nugalur	6,138	..	..	..	6,138	..	....	
		Thumbal	3,680	..	..	..	3,680	..	....	
		Mannur	..	..	4,000	..	4,000	..	No. 13, 20th December.	Transferred from other forests and notified under section 4.
		Pattimedu extension.	..	..	1,200	..	1,200	..		
		Thumbal do. ..	..	..	4,800	..	4,800	..		
		Pillapadi	4,992	..	..	..	4,992	..	....	
		Mallapuram Ghât ..	2,285	..	..	..	2,285	..	....	
		Mallapuram Ghât extension.	640	..	..	..	640	..	....	
		Kurumbapatti ..	10,000	..	..	..	10,000	..	....	
	Salem ..	Vanavasi	9,000	..	..	..	9,000	..	....	
		Ramaswamimalai ..	3,000	..	..	..	3,000	..	....	
		Gundakal	4,000	..	..	4,000	..	..	No. 229, 30th July	Transferred to reserved forests.
		Manukonda	5,500	..	..	5,500	..	..	No. 233 „ „	
		Puliyankad	1,000	..	..	..	1,000	..	....	
		Arasankad	2,500	..	..	..	2,500	..	....	
		Kaputu	3,500	..	..	..	3,500	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Salem—*cont.*	Salem—*cont.*	Mattikottai	3,500	..	..	..	3,500	..	....	
		Pungamadavi ..	2,500	..	..	..	2,500	..	....	
		Godumalai	7,000	..	..	7,000	..	..	No. 206, 15th July.	Transferred to reserved forests.
		Jalluttu	12,000	..	..	12,000	..	..	,, 232, 30th ,,	
		Pudupatti	7,500	..	..	..	7,500	..	....	
		Kanjamalai	4,500	..	..	..	4,500	..	....	
		Nagaramalai	1,280	..	..	..	1,280	..	....	
		Yerkkad lake ..	22	..	..	22	..	..	No. 27, 31st Dec.	Reservation of this block was cancelled.
		Mary land	400	..	..	..	400	..	....	
		Saniyasimalai ..	600	..	..	..	600	..	....	
		Kudimadavu	4,307	..	..	..	4,307	..	....	
		Yelatur	2,000	..	..	..	2,000	..	....	
		Vellampatti	3,500	..	..	..	3,500	..	....	
		Kurichi	2,300	..	..	..	2,300	..	....	
		Mallur	5,000	..	..	..	5,000	..	....	
	Uttenkarai.	Anmapalaiyam ..	9,216	..	..	..	9,216	..	....	
		Kowramalai extention	4,000	..	..	..	4,000	..	....	
		Mukkanur	8,000	..	..	..	8,000	..	....	
		Nochikotai	7,917	..	..	..	7,917	..	....	
		Kalnad	4,320	..	..	..	4,320	..	....	
		Karangal	4,320	..	..	..	4,320	..	....	
		Uttenkarai, new ..	3,200	..	..	..	3,200	..	....	
		Wonnagiri	2,944	..	..	..	2,944	..	....	
		Kalavi	4,160	..	..	..	4,160	..	....	
		Poyapatti	3,488	..	..	..	3,488	..	....	
		Morappur	4,000	..	..	..	4,000	..	....	
		Harûr, new	1,901	..	..	..	1,901	..	....	
		Tirtamalai	11,046	..	..	..	11,046	..	....	
		Vepampatti	8,610	..	..	..	8,610	..	....	
		Kaladipatti	2,912	..	..	..	2,912	..	....	
		Tenkaraikotta ..	2,368	..	..	..	2,368	..	....	
		Kowramalai	8,512	..	..	..	8,512	..	....	
	Tirupatûr.	Vellakuttai	1,152	..	..	..	1,152	..	....	
		Kottanur	7,257	..	..	..	7,257	..	....	
		Garagamandiar ..	1,280	..	..	..	1,280	..	....	
		Madagatur	3,200	..	..	..	3,200	..	....	
		Andiyappanur ..	4,704	..	..	..	4,704	..	....	
	Tirupatûr and Uttankarai.	Govindapuram ..	3,104	..	..	..	3,104	..	....	
	Tirupatûr & Krishnagiri.	Nandibanda	2,500	..	..	..	2,500	..	....	
	Hosûr ..	Hulibanda	7,360	..	..	..	7,360	..	....	
		Pani	5,856	..	..	..	5,856	..	....	
		Kundukotta	4,768	..	..	..	4,768	..	....	
		Sivanhalli	4,092	..	..	..	4,092	..	....	
	Dharmapûri.	Kesaragili	6,400	..	..	..	6,400	..	....	
		Picklymalai	6,400	..	..	..	6,400	..	....	
		Masukal	9,600	..	..	..	9,600	..	....	
		Bianurmalai ..	11,500	..	..	..	11,500	..	....	
		Bathanavadi ..	27,000	..	..	..	27,000	..	....	
		Perumbalai	12,000	..	..	..	12,000	..	....	
		Kalapambadi ..	9,500	..	..	..	9,500	..	....	
		Toppur	7,000	..	..	..	7,000	..	....	
	Krishnagiri.	Maharajagadai ..	10,304	..	..	..	10,304	..	....	
		Neralkotta	7,040	..	..	..	7,040	..	....	
	Tiruchengôd.	Suriyamalai	5,000	..	..	..	5,000	..	....	
		Total ..	364,551	569·61	10,000	28,522	346,029	540·67		
Trichinopoly.	Trichinopoly.	Ettarai	483	..	..	..	483	..	....	
		Adavattur, No. I ..	370	..	..	..	370	..	....	
		Do. ,, II ..	331	..	..	..	331	..	....	
		Valur	382	..	..	..	382	..	....	
		Kottapatti	211	..	..	..	211	..	....	
		Nattarajapuram ..	109	..	..	..	109	..	....	
		Alandur	149	..	..	..	149	..	....	
		Adavatur	144	..	..	..	144	..	....	
		Punganûr	281	..	..	..	281	..	....	
	Kulitalai.	Shemmalai, No. II ..	1,593	..	..	..	1,593	..	....	
		Maradur	180	..	..	..	180	..	....	
		Maiyanur	50	..	..	..	50	..	....	
		Pudur	143	..	..	..	143	..	....	
		Sekkanam	119	..	..	..	119	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Area.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Trichinopoly—*cont.*	Kulitalai—*cont.*	Mahadanapuram ..	191	..	..	..	191	..	....	
		Pillapalaiyam ..	11	..	..	..	11	..	....	
		Vengampatti ..	103	..	..	..	103	..	....	
		Panjantangi hill valley.	262	..	..	..	262	..	....	
		Tani and Sengammakaradu.	714	..	..	..	714	..	....	
		Karuppur Reddipatti hill.	4,112	..	..	..	4,112	..	....	
	Musiri ..	Omandur	321	..	..	..	321	..	....	
		Talayanatam and Kotrapati.	333	..	..	..	333	..	....	
		Tirutalaiyur	125	..	..	..	125	..	....	
		Yedumalai	959	..	..	..	959	..	....	
		Vellakalpatti ..	1,224	..	..	..	1,224	..	....	
		Pulivalum	522	..	..	..	522	..	....	
		Mavalipatti	1,010	..	..	..	1,010	..	....	
		Visalatchiammal samudram	138	..	..	..	138	..	....	
		Kanjurmalai and Uduvampattimalai.	3,000	..	..	..	3,000	..	....	
		Kunapadi (Vunnad)..	10,000	..	..	..	10,000	..	....	
		Kannam	195	..	..	..	195	..	....	
		Kotavasal	167	..	..	..	167	..	....	
		Korsipadai	221	..	..	..	221	..	....	
		Valaiyur	3,000	..	..	..	3,000	..	....	
		Do.	3,480	..	..	..	3,480	..	....	
		Udumbiyam	500	..	..	..	500	..	....	
		Periyavenmani ..	138	..	..	..	138	..	....	
		Tondapadi	276	..	..	..	276	..	....	
		Anukur	487	..	..	..	487	..	....	
		Malvoy	264	..	..	..	264	..	....	
		Mossiyam	152	..	..	..	152	..	....	
		Padu Vallakudi ..	113	..	..	..	113	..	....	
		Kallakudi	123	..	..	..	123	..	....	
		Attiyur	98	..	..	..	98	..	....	
		Voppantottai ..	213	..	..	..	213	..	....	
		Pasumbalur	149	..	..	..	149	..	....	
		Terkukarai								
		Pasumbalur	240	..	..	..	240	..	....	
		Vadakarai								
	Perambalúr.	Nunne	175	..	..	..	175	..	....	
		Kolattur	116	..	..	..	116	..	....	
		Orgalur	190	..	..	..	190	..	....	
		Sirukudal	166	..	..	..	166	..	....	
		Saturpakam	352	..	..	..	352	..	....	
		Kolapuliyur	229	..	..	..	229	..	....	
		Neikuppai, No. I ..	154	..	..	..	154	..	....	
		Do. ,, II ..	90	..	..	..	90	..	....	
		Yesanai	113	..	..	..	113	..	....	
		Peramattur	658	..	..	..	658	..	....	
		Mavalingai	260	..	..	..	260	..	....	
		Pulambadi, No. I ..	222	..	..	..	222	..	....	
		Do. ,, II ..	645	..	..	..	645	..	....	
		Do. ,, III ..	133	..	..	..	133	..	....	
		Viswakudi	150	..	..	..	150	..	....	
		Mattavarai	283	..	..	..	283	..	....	
		Araiyur, No. I ..	290	..	..	..	290	..	....	
		Do. ,, II ..	140	..	..	..	140	..	....	
		Ladapurm	103	..	..	..	103	..	....	
		Sittali	404	..	..	..	404	..	....	
		Suniya Vadakari ..	268	..	..	..	268	..	....	
		Nattapur	175	..	..	..	175	..	....	
		Makurambalur ..	269	..	..	..	269	..	....	
		Satanavadi	214	..	..	..	214	..	....	
		Vengalam	361	..	..	..	361	..	....	
		Kalpadai	300	..	..	..	300	..	....	
		Venparur	1,024	..	..	..	1,024	..	....	
		Paravai	150	..	..	..	150	..	....	
		Nergunam	1,253	..	..	..	1,253	..	....	
		Tevaiyur	253	..	..	..	253	..	....	
		Motupálaiyam ..	539	..	..	..	539	..	....	
		Elambalur	214	..	..	..	214	..	....	
		Maravattur	261	..	..	..	261	..	....	
		Kanakasittur ..	310	..	..	..	310	..	....	
		Periyur	856	..	..	..	856	..	....	
		Vannarpudi	214	..	..	..	214	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Trichinopoly—*cont.*	Perambalúr—*cont.*	Tiruvalandurai ..	197	..	..	..	197	..	....	
		Bhamadesam ..	273	..	..	..	273	..	....	
		Kurumbalur	366	..	..	..	366	..	....	
		Numbakurchi, No. I.	328	..	..	..	328	..	....	
		Do. „ II.	165	..	..	..	165	..	....	
		Kilarasu	207	..	..	..	207	..	....	
		Kilarkarai	119	..	..	..	119	..	....	
		Yeraiyur and Naduvasal.	562	..	..	..	562	..	....	
		Naduvasal	176	..	..	..	176	..	....	
		Sirumatur	499	..	..	..	499	..	....	
		Jayankonda Sholapuram, No. I.	150	..	..	..	150	..	....	
		Jayankonda Sholapuram, No. II.	300	..	..	..	300	..	....	
		Vanavallur	200	..	..	..	200	..	....	
		Mulugunkudiyirupu.	150	..	..	150	..	..	No. 199, 6th July.	Transferred to reserved forests.
		Kodukur	100	..	..	..	100	..	....	
		Kanjuli	800	..	..	..	800	..	....	
		Aiyur	1,400	..	..	..	1,400	..	....	
		Tirukanam	650	..	..	..	650	..	....	
		Pasikulam	100	..	..	..	100	..	....	
		Adankurchi	250	..	..	250	..	..	No. 195, 6th July.	Transferred to reserved forests.
	Udryárpálaiyam.	Sittadaisr	54	..	..	..	54	..	....	
		Kulamur	200	..	..	..	200	..	....	
		Periyakurchi ..	150	..	..	..	150	..	....	
		Sattambadi	1,000	..	..	..	1,000	..	....	
		Alvoy	300	..	..	..	300	..	....	
		Ambapur	200	..	..	..	200	..	....	
		Ulliyagudi	200	..	..	..	200	..	....	
		Sundreswarapuram ..	150	..	..	..	150	..	....	
		Periyavalaiyan ..	1,000	..	..	..	1,000	..	....	
		Vettiyarvettu ..	650	..	..	..	650	..	....	
		Kovilur	700	..	..	..	700	..	....	
		Mudukulam ..	1,200	..	..	..	1,200	..	....	
		Velangudi	900	..	..	..	900	..	....	
		Kolamanikkam ..	242	..	..	..	242	..	....	
		Aramanakurchi ..	91	..	..	..	91	..	....	
		Kariyapakam ..	83	..	..	..	83	..	....	
		Tiruvenganur, I to V.	136	..	..	..	136	..	....	
		Varapparkurchi, I to VI.	190		..	..	190	..	....	
		Sattambadi, I to XI ..	179	..	..	..	179	..	....	
		Sripurandan, I and II.	434	..	..	..	434	..	....	
		Velakurchi, I to III..	48	..	..	..	48	..	....	
		Annagarampatai, I to V	58	..	..	..	58	..	....	
		Tennamanallúr ..	10	..	..	..	10	..	....	
		Total ..	64,087	100·14	..	400	63,687	99·51		
Tanjore.	Northern.	Vettangudi	1,900	..	..	..	1,900	..	....	
		Elantope	18	..	..	..	18	..	....	
		Talandondi	100	..	..	..	100	..	....	
		Karpalam	54	..	..	..	54	..	....	
		Kadagavinayaganallur.	90	..	..	..	90	..	....	
		Ambanur, No. I ..	134	..	..	..	134	..	....	
		Do. „ II ..	122	..	..	..	122	..	....	
		Kaliyappanallur ..	20	..	..	..	20	..	....	
		Kodiyarkadu, Point Calimere.	4,355	..	..	..	4,355	..	....	
		Nadur, No. I ..	1,000	..	..	1,000	..	..	No. 110, 20th April.	Transferred to reserved forests.
	Southern.	Edangankottai ..	200	..	..	..	200	..	....	
		Perumagalur ..	13	..	..	..	13	..	....	
		Kolakudi	13	..	..	..	13	..	....	
		Mudukurchi	10	..	..	..	10	..	....	
		Anaikadu	10	..	..	..	10	..	....	
		Vattagudi	10	..	..	..	10	..	....	
		Alatur	10	..	..	..	10	..	....	
		Kannugudi, No. I ..	10	..	..	..	10	..	....	
		Do. „ II ..	266	..	..	..	266	..	....	
		Pambutukadu ..	203	..	..	..	203	..	....	
		Kodavani	53	..	..	..	53	..	....	
		Vakkanattu reserve ..							....	
		Nannilam	2	..	..	..	2	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Area.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Tanjore —*cont.*	Southern —*cont.*	Melakadu	331	..	..	..	331	..	....	
		Vendayampatti ..	231	..	..	..	231	..	....	
		Kambayanattem ..	65	..	..	..	65	..	....	
		Kasangulam, No. I ..	100	..	..	..	100	..	....	
		Do. ,, II ..	141	..	..	..	141	..	....	
		Talarapatti	538	..	..	..	538	..	....	
		Pinjanmodu	116	..	..	..	116	..	....	
		Vaduvúr, No. I ..	57	..	..	..	57	..	....	
		Do. ,, II ..	94	..	..	..	94	..	....	
		Do. ,, III ..	38	..	..	..	38	..	....	
		Do. ,, IV ..	133	..	..	..	133	..	....	
		Do. ,, V ..	124	..	..	..	124	..	....	
		Do. ,, VI ..	146	..	..	..	146	..	....	
		Do. ,, VII ..	212	..	..	..	212	..	....	
		Sorapettai	70	..	..	..	70	..	....	
		Ullikotai	130	..	..	..	130	..	....	
		Total ..	11,119	17·37	..	1,000	10,119	15·81		
North Coimbatore.	Erode ..	....	27,927	..	..	..	27,927	..	....	
	Kurúr ..	....	3,549	..	..	..	3,549	..	....	
	Satyamangalam.	Talamalai	121,600	..	..	..	121,600	..	....	
		Gutiyalattúr	179,200	..	..	..	179,200	..	....	
	Kollegál.	Chickidúr	53,760	..	..	..	53,760	..	....	
		Dodasampagai ..	65,920	..	..	..	65,920	..	No. 73, 12th Mar.	Notified under section 4 during 1889-90.
		Yedaralli ..	478,080	..	..	*1,920	476,160	..	....	* Deducted for the sandalwood reserves, &c., included in the areas of reserved forests.
		Ponachi ..								
	Bhavání..	Palamalai	28,160	..	..	..	28,160	..	....	
		Burgúr	215,040	..	..	..	215,040	..	....	
		Total ..	1,173,236	1,833·18	..	1,920	1,171,316	1,830·18		
South Coimbatore.	Sholakarai, Coimbatore taluk.	Small Sholakarai reserve	61	..	..	61	..	..	No. 167, 17th June.	Transferred to reserved forests.
	Palladam taluk.	Alatúr	237	..	..	..	237	..	....	
		Ammapalaiyam ..	119	..	..	..	119	..	....	
		Arasúr	94	..	..	..	94	..	....	
		Asanellipalaiyam ..	160	..	..	..	160	..	....	
		Avánasi	55	..	..	..	55	..	....	
		Ichipatti	639	..	..	..	639	..	....	
		Iduvai	125	..	..	*31	94	..	....	
		Iliverampalaiyam ..	581	..	..	..	581	..	....	
		Kudirampalaiyam ..	188	..	..	*3	185	..	....	
		Kaduvettipalaiyam ..	80	..	..	..	80	..	....	
		Kalipalaiyam ..	123	..	..	..	123	..	....	
		Kandampalaiyam ..	92	..	..	..	92	..	....	
		Kaniyampalaiyam ..	156	..	..	..	156	..	....	
		Kaniyúr	820	..	..	*7	813	..	....	
		Kardihavi	50	..	..	..	50	..	....	
		Karaipudúr	92	..	..	..	92	..	....	
		Karavalúr	522	..	..	..	522	..	....	
		Kurumbapalaiyam ..	299	..	..	..	299	..	....	
		Koramatampatti ..	306	..	..	*14	292	..	....	
		Kodangipalaiyam ..	121	..	..	..	121	..	....	
		Kuppandapalaiyam ..	69	..	..	..	69	..	....	
		Kuttagam	582	..	..	..	582	..	....	
		Mangarasuvalaiyapalaiyam	271	..	..	..	271	..	....	
		Moparipalaiyam ..	163	..	..	..	163	..	....	
		Naranaparam ..	556	..	..	..	556	..	....	
		Narayampalli ..	51	..	..	..	51	..	....	
		Nilambúr	113	..	..	..	113	..	....	
		Papakulam	103	..	..	..	103	..	....	
		Paruvai	76	..	..	..	76	..	....	
		Pattampalaiyam ..	126	..	..	*47	79	..	....	* Result of correction — *vide* Board's Proceedings, dated 18th June 1889, Forest No. 518, Mis.
		Perumanallúr ..	159	..	..	..	159	..	....	
		Perunkarunaipalaiyam	53	..	..	..	53	..	....	
		Pudupalaiyam ..	793	..	..	..	793	..	....	
		Pulippar	72	..	..	..	72	..	....	
		Puluvapatti	111	..	..	..	111	..	....	
		Pumalúr	291	..	..	..	291	..	....	
		Rakkiyapalaiyam ..	278	..	..	..	278	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
South Coimbatore —*cont.*	Palladam taluk—*cont.*	Samalapuram	52	..	..	..	52	..	....	
		Settipalaiyam ..	159	..	..	..	159	..	....	
		Sanneripalayam ..	75	..	..	..	75	..	....	
		Sokkanûr	132	..	..	..	132	..	....	
		Sukkampalaiyam ..	479	..	..	..	479	..	....	
		Tandagarampalaiyam.	83	..	..	..	83	..	....	
		Tattanur	290	..	..	* 1	289	..	....	* Result of correction — *Vide* Board's Proceedings, dated 18th June 1889, Forest No. 518, Mis.
		Tekkalur	389	..	..	..	389	..	....	
		Taranallur	82	..	..	..	82	..	....	
		Tulukamatur ..	60	..	..	..	60	..	....	
		Uppilipalaiyam ..	99	..	..	..	99	..	....	
		Vadugapalaiyam ..	57	..	..	..	57	..	....	
		Do. ..	293	..	..	..	293	..	....	
		Vallipuram	52	..	..	..	52	..	....	
		Velampalaiyam ..	81	..	..	..	81	..	....	
		Do. ..	75	..	..	..	75	..	....	
		Virapandi	175	..	..	..	175	..	....	
		Total ..	11,440	17·88	..	184	11,256	17·59		
Madura.	No. I, Uttamapalaiyam.	Kombai	6,400	..	..	..	6,400	..	....	
		No. I, Vellaikaradu.	965	..	..	..	965	..	....	
		,, II, Sonaikaradu.	182	..	..	..	182	..	....	
		,, III, Mottaikaradu.	193	..	..	..	193	..	....	
		,, IV, Kuttaikaradu.	125	..	..	..	125	..	....	
		,, V, Nagamalaikaradu.	118	..	..	..	118	..	....	
		,, VI, Perumalkovilkaradu.	573	..	..	..	573	..	....	
		,, VII, Sanniyasikovilkaradu ..	283	..	..	..	283	..	....	
		Karugal Dhoni Medu.	2,560	..	..	..	2,560	..	....	
		Adukam	3,200	..	..	..	3,200	..	....	
		Murugamalai F.F.R.	3,226	..	..	..	3,226	..	....	
		The southern slopes of the Palni hills ..	25,600	..	..	..	25,600	..	....	
		The northern slopes of the Palni hills ..	16,000	..	..	..	16,000	..	....	
		All the lands on the lower Palni hills lying outside the limits of certain cultivable waste, selected and set apart	32,000	..	..	..	32,000	..	....	
	No. II or Kodaikánal.	Arunkanal	2,560	..	..	2,560	..	..	No. 205, 20th July	Transferred to reserved forests.
		Kallar	9,600	..	..	9,600	..	..	No. 217, 24th July	
		Unjamalai	157	..	..		157	..	....	
		Kokkuparai	130	..	..		130	..	....	
		Manjakaraiar ..								
		Vanjankanal								
		Alayadikanal								
		Checkodikanal ..								
		Kadugatadikadu ..								
		Kovildikanal ..								
		Kumalarakadu ..	1,600	..	..	..	1,600	..	....	
		Talakodikadu ..								
		Kivikuttikadu ..								
		Ponvottukanal ..								
		Periyasalaikadu ..								
		Poliyapattimalai ..								
		Elamalai								
		Nadumbaraikadu ..								
	No. III or Dindigul.	Karandamalais ..	22,400	..	..	..	22,400	..	....	
		Panjantangi hills ..	3,200	..	..	..	3,200	..	....	
	No. IV or Mettupatti.	Waggatumalai F.F.R.	4,200	..	..	..	4,200	..	....	
		Kachakatti F.F.R. ..	1,694	..	..	..	1,694	..	....	
		Chembulimalai ..	1,600	..	..	..	1,600	..	....	

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Madura—*cont.*	No. IV or Mottupatti—*cont.*	Mottamalai	1,280	..	..	..	1,280	..	....	
		Perumalai	2,560	..	..	..	2,560	..	....	
		Pulamalai	1,920	..	..	..	1,920	..	....	
		Buthagudimalai ..	1,600	..	..	1,600	..	..	No. 204, 19th July	Transferred to reserved forests.
	No. V or Alagar Hill.	Tiruparamkundram.	960	..	..	..	960	..	....	
		Elephant Rock ..	640	..	..	..	640	..	....	
		Ammamalai ..	1,600	..	..	..	1,600	..	....	
		Mudupattimalai ..								
		Vandiyurkaradu ..								
		Nalluvampatikaradu.	1,920	..	..	..	1,920	..	....	
		Total ..	151,046	236·01	..	13,760	137,286	214·50		
Tinnevelly.	Nánguneri.	Block I (*a*)	25,999	..	..	..	25,999	..	....	
		Teak Forest	284	..	..	284	..	..	No. 165, 10th June	Transferred to reserved forests.
		Chinnakadu defined in Mr. Baber's decision on the claims of inamdar ..	2,560	..	..	..	2,560	..	....	
		Block II (*a*) and (*b*)..	53,819	..	..	..	53,819	..	....	
	Ambásamudram.	Mullimalai	457	..	..	457	..	..	No. 307, 24th Oct.	Transferred to reserved forests.
		Kaliyamman kovil parai.	309	..	..	309	..	..	,, 308, ,,	
		Koviladi parai ..	125	..	..	125	..	..	,, 309, ,,	
		Salupparpadai ..	71	..	..	71	..	..	,, 310, ,,	
		Kolandamamalai ..	1,540	..	..	..	1,540	..	....	
	Tenkási.	Block III (*a*), (*b*) and (*c*).	10,643	..	..	..	10,643	..	....	
		Okaninranpadai ..	85	..	..	85	..	..	No. 198, 6th July	Transferred to reserved forests.
		Kavalkuttiperamba ..	375	..	..	375	..	..	,, 303, 24th Oct.	
		Kottamalai	860	..	..	860	..	..	,, 304, ,,	
		Nalankurchi ..	212	..	..	212	..	..	,, 306, ,,	
	Sankaranainárkoil.	Block IV (*a*) ..	30,713	..	..	..	30,713	..	....	
		Chunnambu peramba.	286	..	..	..	286	..	....	
		Seiyamalai and Vedamalai.	294	..	..	..	294	..	....	
	Srivilliputur.	Block V (*a*)	40,006	..	..	..	40,006	..	....	
		Kotankulam ..	473	..	..	..	473	..	....	
		Sappaniperamba .	376	..	..	376	..	..	No. 311, 24th Oct.	Transferred to reserved forests.
		Pulpattiperamba ..	51	..	..	51	..	..	,, 312, ,,	
		Valaikulamperamba.	1,120	..	..	..	1,120	..	....	
		Onipattimalai ..	530	..	..	530	..	..	No. 230, 30th July	Transferred to reserved forests.
		Martandamparai ..	135	..	..	135	..	..	,, 313, 24th Oct.	
	Tinnevelly	Talaiyuttu	891	..	..	..	891	..	....	
		Sivilaperiperamba ..	263	..	..	..	263	..	....	
	Tenkarai.	Kottamadakki ..	1,279	..	..	1,279	..	..	No. 306, 24th Oct.	Transferred to reserved forests.
		Kudiraimalai ..	13,393	..	..	..	13,393	..	....	
		Punnamparai ..	117	..	..	117	..	..	No. 111, 20th Apr.	Transferred to reserved forests.
		Kongrayakurchi ..	60	..	..	..	60	..	....	
		Kaliyavur ..	158	..	..	158	..	..	No. 197, 6th July	Transferred to reserved forests.
		Vellanad hills ..	4,367	..	..	..	4,667	..	....	
	Otapidáram.	Melavittam	708	..	..	..	708	..	....	
		Virusámpatti ..	294	..	..	..	294	..	....	
		Vaipar	813	..	..	..	813	..	....	
		Total ..	193,966	303·07	..	5,424	188,542	294·60		
North Malabár.	Wynaad.	Palépattur	861	..	..	115	746	..	Notification, dated 30th July, in the *District Gazette*.	
		Vengur	2,013	..	3,457	..	5,470	..		
		Chedlet	572	..	..	55	517	..		
		Karpur	1,221	..	..	468	753	..		
		Kalur	3,757	..	..	3,544	213	..		
		Excluded portions of Trans Beni.	4,300	..	..	4,300	..	..		
		Kudrakot	21,502	..	..	..	21,502	..	....	
		Padri	30,468	..	..	..	30,468	..	....	
		Cardamom forest ..	13,683	..	..	..	13,683	..	....	
		Kanot	25,600	..	..	..	25,600	..	....	
		Chapparam	112	..	..	..	112	..	....	
		Panniyatta	150	..	..	..	150	..	....	
		Advankunnu ..	39	..	..	..	39	..	....	
		Total ..	104,278	162·93	3,457	8,482	99,253	155·08		

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
South Malabar	Nilambúr.	Nilambúr block ..	5,036	..	..	..	5,036	..	....	Leased.
		Pokoto	761	..	..	..	761	..	....	
		Panangod	859	..	..	..	859	..	....	
		Valluvasheri	914	..	..	..	914	..	....	
		Kanakut	669	..	..	..	669	..	....	
		Erumbadam	581	..	..	..	581	..	....	
		Ambalakandi ..	1	..	..	..	1	..	....	
		Arimbrakutamala ..	322	..	..	..	322	..	....	
		Mangalasheriporamba	11	..	..	..	11	..	....	
		Puttalatta and Chittarikalparamba.	8	..	..	..	8	..	....	
		Muriyat	1,765	..	..	..	1,765	..	....	
		Kariyen	1,002	..	..	..	1,002	..	....	
		The Silent Valley ..	17,280	..	..	..	17,280	..	....	
		The new Amarampalam plantation.	96,000	..	..	..	96,000	..	....	
		Attapadi Valley.								
	Walluvanad taluk.	Block No. II ..	24,320	..	..	..	24,320	..	....	
		,, ,, III (*a*) ..	12,800	..	..	..	12,800	..	....	
		,, ,, III (*b*), I and III (*b*) II.	4,480	..	..	..	4,480	..	....	
		Block No. IV (*a*), IV (*b*) and IV (*c*).	16,640	..	..	..	16,640	..	....	
	Pálghat..	Chatamkulam Karaiporamba.	30	..	..	..	30	..	....	
		Tamburattapetai *alias* Pilacheripalaiyam.	100	..	..	..	100	..	....	
		Tiruvazhamkunnu *alias* Panakadam.	1,000	..	..	..	1,000	..	....	
		Total ..	184,579	288·40	..	..	184,579	288·40		
South Canara.	Mangaloro	Todar reserve ..	458	..	..	..	458	..	....	
		Mujimale	3,200	..	..	..	3,200	..	....	
	Udipi ..	Tenkahola	2,039	..	..	..	2,039	..	....	
		Durgamale	1,602	..	..	1,602	..	..	No. 362, 28th Nov.	Transferred to reserved forests.
		Andar reserve ..	22,334	..	..	..	22,334	..	....	
	Uppinangadi.	Dharmastal Mandaji..	9,600	..	..	..	9,600	..	....	
		Charmairkanapadi ..	12,800	..	..	..	12,800	..	....	
	Kásaragód.	Parappa	7,680	..	..	..	7,680	..	....	
	Kondapur.	Harkúr block ..	1,920	..	..	* 1,062	858	..	....	* Rectification on survey.
		Kasankatti	262	..	..	..	262	..	No. 109, 20th Apr.	Notified under section 4 during 1889-90.
		Talabur Ane	640	..	..	..	640	..		
		Gundalur Parie ..	3,200	..	..	..	3,200	..	No. 295, 22nd October.	
		Jennal Ane	1,280	..	..	..	1,280	..		
		Korakappadahola ..	640	..	..	..	640	..		
	Mangalore.	....	27,693	..	..	..	27,693	..	....	
	Udipi ..	....	73,443	..	..	..	73,443	..	....	
	Uppinangadi	....	288,000	..	..	..	288,000	..	....	
	Kásaragód.	....	32,920	..	..	..	32,920	..	....	
	Coondapoor.	....	136,058	..	..	..	136,058	..	....	
		Total ..	625,769	977·76	..	2,664	623,105	973·60		
		Grand Total ..	3,390,580	5,297·78	215,411	72,724	3,533,267	5,520·72		

Abstract.

Chingleput	38,852	60·71	16,059	730	54,181	84·66	
North Arcot	346,694	541·71	26,700	4,914	368,480	575·75	
South Arcot	120,963	189·00	159,195	4,724	275,434	430·37	
Salem	364,551	569·61	10,000	28,522	346,029	540·67	
Trichinopoly..	64,087	100·14	..	400	63,687	99·51	
Tanjore	11,119	17·37	..	1,000	10,119	15·81	
North Coimbatore	1,173,236	1,833·18	..	1,920	1,171,316	1,830·18	
South Coimbatore	11,440	17·88	..	184	11,256	17·59	
Madura	151,046	236·01	..	13,760	137,286	214·50	
Tinnevelly	193,066	303·07	..	5,424	188,542	294·60	
North Malabar	104,278	162·93	3,457	8,482	99,253	155·08	
South Malabar	184,579	288·40	..	..	184,579	288·40	
South Canara	626,769	977·76	..	2,664	623,105	973·60	
Total ..	3,390,580	5,297·78	215,411	72,724	3,533,267	5,520·72	

Annual Form No. 59.

Forest Department, Madras, Southern Circle.

Area of other forests, 1889-90.

District.	Range.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred* to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Chingleput.	Saidápet	6,052	..	488	* 6,052	488	..	..	* Transferred to reserved lands.
	Chingleput	7,418	..	10,619	† 7,418	10,619	..	..	† Of this, 365 acres were included in correcting errors in previous estimate and the rest transferred to reserved lands.
	Tiruvallúr	1,342	..	..	..	‡ 1,342	..	..	‡ Shown in form No. 59-B in the previous year.
		..	..	4,605	..	4,605	..	..	
	Total ..	14,812	23·15	§ 15,712	13,470	17,054	26·65		§ Fresh selections.
North Arcot.	....	..	..	..	..	..	..	..	
South Arcot.	No. I, Tiruvannámalai.	291,884	..	..	170,264	331,926	..	..	
	,, II, Tindivanam.	28,985							
	,, III, Villupuram.	15,020							
	,, IV, Cuddalore and Chidambaram.	6,336							
		10,800							
	,, V, Tirukoilúr..	34,935							
	,, VI, Kallakurchi.	72,800							
	,, VII, Vriddhácha-lam.	41,430							
	Total ..	502,190	784·67	..	170,264	331,926	518·63		
Salem ..	Atúr	43,880	..	..	10,000	33,880	..	..	Transferred to reserved lands
	Tirupatúr	28,515	..	..	..	26,515	..	..	
	Námakal	17,500	..	..	..	17,500	..	..	
	Utenkarai	41,120	..	..	..	41,120	..	..	
	Krishnagiri	15,376	..	..	..	15,376	..	..	
	Hosúr	69,920	..	..	..	69,920	..	..	
	Total ..	216,311	337·99	..	10,000	206,311	322·36		
Trichinopoly.	Trichinopoly taluk.	..	..	2,681	..	2,681	..	..	
	Udaiyárpálaiyam do.	..	..	3,917	..	3,917	..	..	
	Kulitalai do.	..	..	5,837	..	5,837	..	..	
	Musiri do.	..	..	13,485	..	13,485	..	..	
	Perambalúr do.	..	..	678	..	678	..	..	
	Total ..	..	..	26,598	..	26,598	41·56		
Tanjore.	Southern	6,081	..	..	..	6,081	..	..	
	To be proposed for notification under section 4 during 1890-91.	..	..	20,485	..	20,485	..	..	
	Total ..	6,081	9·50	20,485	..	26,566	41·50		

Area of other forests, 1889-90—*cont.*

District.	Range.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
North Coimbatore.	....	..	..	..	..	..	..	..	
South Coimbatore.	Udamalpet	654	..	..	..	654	..	..	
	Pollâchi	121	..	..	..	121	..	..	
	Palladam	473	..	..	..	473	..	..	
	Bolampatti	64	..	..	..	64	..	..	
	Total ..	1,312	2·05	..	..	1,312	2·05		
Madura.	No. I, Uttamapalaiyam.	22,867	..	..	..	22,867	..	..	
	,, II, Kodaikânal..	32,000	..	..	..	32,000	..	..	
	,, III, Dindigul ..	14,210	..	..	..	14,210	..	..	
	,, IV, Mattupatti..	7,156	..	..	..	7,156	..	..	
	,, V, Alagar hill..	11,135	..	..	..	11,135	..	..	
	Total ..	87,368	136·51	..	..	87,368	136·51		
Tinnevelly.	Tenkarai	1,133	..	..	..	1,133	..	..	
	Nângunéri	9,691	..	..	..	9,691	..	..	
	Total ..	10,824	16·91	..	..	10,824	16·91		
North Malabar.	Wynaad	214,400	335·00	..	..	214,400	335·00	..	
South Malabar.	Pâlghat	150	·23	..	..	150	·23	..	
South Canara.	....	..	..	..	..	..	..	..	
	Grand Total ..	1,053,448	1,646·01	62,795	193,734	922,509	1,441·42		

Abstract.

District.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.
Chingleput	14,812	23·15	15,712	13,470	17,054	26·65
North Arcot	..	..	..	..	..	..
South Arcot	502,190	784·67	..	170,264	331,926	518·63
Salem	216,311	337·99	..	10,000	206,311	322·36
Trichinopoly	..	..	26,598	..	26,598	41·56
Tanjore	6,081	9·50	20,485	..	26,566	41·50
North Coimbatore	..	..	..	..	..	..
South Coimbatore	1,312	2·05	..	..	1,312	2·05
Madura	87,368	136·51	..	..	87,368	136·51
Tinnevelly	10,824	16·91	..	..	10,824	16·91
North Malabar	214,400	335·00	..	..	214,400	335·00
South Malabar	150	·23	..	..	150	·23
South Canara	..	..	..	..	..	..
Total ..	1,053,448	1,646·01	62,795	193,734	922,509	1,441·42

Annual Form No. 60.

Forest Department, Madras, Southern Circle.

Area of Plantations, 1889-90.

District.	Number of plantations.	On 1st April 1889.		Added during 1889-90.		On 31st March 1890.	
		Area.	Cost.	Area.	Cost.	Area.	Cost.
		acs.	rs.	acs.	rs.	acs.	rs.
Regular plantations—							
Chingleput	6	396·09	30,887	..	929	396·09	31,816
North Arcot	5	1,035	93,957	..	4,473	1,035	98,430
South Arcot	15	1,785·05	1,03,235	76	2,664	1,861·05	1,05,899
Salem	..	..	..	..	..	..	..
Trichinopoly	22	3,754·01	87,006	..	3,145	3,754·01	90,151
Tanjore	5	708	12,755	..	1,200	708	13,955
North Coimbatore	1	97	33,124	..	1,029	97	34,153
South Coimbatore	3	19·5	4,455	7	355	26·5	4,810
Madura	8	63·64	10,566	21·50	2,626	85·14	13,192
Tinnevelly	..	..	..	..	..	..	..
North Malabar	1	41·50	3,711	..	347	41 50	4,058
South Malabar	16	3,729·75	2,33,927	140	7,866	3,869·75	2,41,793
South Canara	3	163·19	21,737	6·99	979	170·18	22,716
Total ..	85	11,792·73	6,35,360	251·49	25,613	12,044·22	6,60,973
Cultural operations—							
Direction	..	..	1,141	..	..	..	1,141
Chingleput	..	..	..	..	..	..	..
North Arcot	..	..	..	..	..	..	..
South Arcot	3	1,326	1,017	..	310	1,326	1,327
Salem	..	..	..	..	..	..	..
Trichinopoly	10	mls. 100	28,995	..	600	mls. 100	29,595
Tanjore	20	1,071	1,740	55	233	1,126	1,973
North Coimbatore	..	..	..	..	..	..	..
South Coimbatore	..	..	..	..	..	..	..
Madura	..	..	..	..	..	..	..
Tinnevelly	7	1,340·93	2,183	301·50	827	1,642·43	3,010
North Malabar	2	109	1,618	..	332	109	1,950
South Malabar	..	..	..	..	..	..	..
South Canara	..	..	38	..	..	..	38
Total ..	42	3,846·93 mls. 100	36,732	356·50	2,302	4,203·43 mls. 100	39,034

Annual Form No. 61.

Forest Department, Madras, Southern Circle.

Annual List of Topes and Experimental gardens, 1889-90.

District.	Number.	Area.	Cost		Remarks.
			During year.	To end of year.	
		acs.	rs.	rs.	
Chingleput	8	93	241	8,215	
North Arcot	640	743	1,243	32,319	
South Arcot	94	394	45	8,757	
Salem	263	3,061	1,048	1,97,042	
Trichinopoly	17	81	..	1,779	
Tanjore	16	153	..	..	
North Coimbatore	183	* 14,030	96	28,875	* The previous year's return showed 10 acres in excess due to clerical error in the District Forest office.
South Coimbatore	7	103	..	5,208	
Madura	23	101	1,649	14,838	
Tinnevelly	28	106	264	4,490	
North Malabar	1	20	155	2,765	
South Malabar	2	3	..	?	
South Canara	..	..	..	..	
Total ..	* 1,282	18,888	4,741	3,04,897	

Annual Form No. 62.

Forest Department, Madras, Southern Circle.

Area of forest tracts protected from fire during 1889-90.

District.	Forest tract.	Up to 31st March 1889		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks
		Area actually protected.	Total cost.	Area attempted to be protected	Fires.	Area actually protected.	Amount expended.			
	Tiruvallúr Range.	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
Chingleput ..	Kambakkam hills	14,951	2,600 9 11	14,951	..	14,951	364 2 0	2,964 11 11	1883-84	
	Nagalapuram hills	8,339	165 5 1	8,345	2	8,343	185 3 4	350 8 5	1887-88	
	Total ..	23,290	2,765 15 0	23,296	2	23,294	549 5 4	3,315 4 4		
	Specially Protected.									
	Pólúr Range.									
	Karnatic ghur	6,469	1,533 2 11	7,069	..	7,069	160 0 0	1,693 2 11	1881	
	Vellore Range.									
	Tellai	15,095	1,621 6 2	15,121	200	14,921	140 0 6	1,761 6 8	1881	
	Ambúr fuel	3,840	1,301 0 8	3,840	..	3,840	143 8 0	1,444 8 8	1879	
	Palamadi	6,400	538 14 0	6,400	260	6,140	56 0 0	594 14 0	1880	
	Chandragiri Range.									
	Napier	8,772	1,508 4 1	8,772	..	8,772	290 15 6	1,799 3 7	1880	
	Mámandúr	1,776	1,443 3 9	1,776	90	1,686	159 13 4	1,603 1 1	1874	
	Chamala	9,437	344 1 2	9,600	960	8,640	65 15 0	410 0 2	1880	
	Panapauk	6,400	394 1 11	6,400	200	6,200	79 5 4	383 7 3	1880	
	Pudipatlabail	2,560	282 8 9	2,560	..	2,560	50 10 8	333 3 5	1880	
	Mámandúr extension	8,000	24 1 6	8,000	..	8,000	11 0 0	35 1 6	1888	
North Arcot ..	*Chittoor Range.*									
	Paradarami	15,242	296 5 0	15,042	..	15,042	25 15 10	322 4 10	1886	
	Airala	6,385	227 10 0	16,130	10	16,120	27 15 10	255 9 10	1880	
	Chittoor	360	193 5 4	360	..	360	11 15 11	205 5 3	1882	
	Santapet	2,276	65 6 11	2,276	..	2,276	4 0 0	69 6 11	1882	
	Bommasamudram	1,426	156 7 8	..	..	..	..	156 7 8	1884	Included in Chittapara block.
	Chilapalli	1,296	82 15 8	1,296	..	1,296	10 9 2	93 8 10	1884	
	Kinatipalli	1,417	54 13 8	1,417	..	1,417	11 15 11	66 13 7	1884	
	Chittaparai	4,850	3 6 10	4,850	..	4,850	13 15 11	17 6 9	1888	
	Bassavapalli	2,027	3 6 10	2,027	..	2,027	11 15 11	15 6 9	1886	
	Mohumundalam	2,522	3 6 10	2,522	..	2,522	11 15 11	15 6 9	1888	
	Penumore	6,400	2 0 0	6,400	..	6,400	11 15 11	13 15 11	1888	
	Pachiguntah	1,800	2 0 0	1,800	..	1,800	11 15 11	13 15 11	1888	
	Vrisetipalli	7,587	2 9 0	7,587	..	7,587	25 15 10	28 8 10	1886	

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.			
North Arcot—*cont.*	***Palmanér Range.***	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
	Mortana	16,000	809 13 8	16,000	30	15,970	163 7 5	973 5 1	1884	
	Mussaimadugu	9,600	268 1 0	9,600	90	9,510	53 9 6	321 10 6	1884	
	Peddur	8,320	652 10 1	9,600	180	9,420	69 5 2	721 15 3	1880	
	Rasvireddipalli	10,240	248 8 4	10,240	..	10,240	37 9 6	286 1 10	1884	
	Naikeneri	6,093	626 7 10	6,400	80	6,320	69 5 2	695 13 0	1884	
	Chargul	19,200	12 0 0	19,200	..	19,200	27 11 8	39 11 8	1888	
	Peddinayanadrug	12,800	12 0 0	12,800	..	12,800	40 13 1	52 13 1	1888	
	Gudiyátam Range.									
	Ambúr drug	5,760	141 15 0	5,760	..	5,760	27 11 8	169 10 8	1880	
	Gundlaputty	..	..	8,420	..	8,420	16 0 0	16 0 0	1890	
	Arcot Range.									
	Punganúr	3,621	1,559 8 2	3,630	351	3,279	163 5 8	1,722 13 10	1884	
	Javadi Hill Range.									
	Putrokod block	19,200	795 10 11	19,200	..	19,200	2 10 8	798 5 7	1881	
	Putúr do.	12,800	420 5 5	12,800	..	12,800	10 6 4	430 11 9	1879	
	Virappanur do.	64,000	45 0 0	64,000	..	64,000	25 0 0	70 0 0	1886	
	Malayalam do.	12,600	53 4 0	12,800	..	12,800	36 6 4	89 10 4	1887	
	Wállajáh Range.									
	Ammanur	203	3 2 0	203	..	203	..	3 2 0	1880	
	Banavaram	1,051	53 0 0	1,051	..	1,051	..	53 0 0	1880	
	Total	323,885	15,696 1 1	342,949	2,451	340,498	2,081 2 7	17,777 3 8		
	General Protection.									
	Pólúr Range	14,863	..	40,366	..	40,366	..	..		
	Vellore do.	30	..	43,630	..	43,630	..	..		
	Chandragiri do.	16,250	..	47,610	..	47,610	..	..		
	Gudiyátam do.	1,148	16 8 11	45,128	..	45,128	..	16 8 11		
	Palmanér do.	61	..	61	..	61	..	..		
	Arcot do.	6,784	..	6,784	..	6,784	..	..		
	Wandiwash do.	11,171	..	11,171	..	11,171	..	..		
	Wállajáh do.	10,328	..	10,328	700	9,628	..	..		
	Total	60,635	16 8 11	205,078	700	204,378	..	16 8 11		
	Total of the District	384,520	15,712 10 0	548,027	3,151	544,876	2,081 2 7	17,793 12 7		

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.			
	Tiruvannámalai Range.	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
South Arcot ..	Annamalai reserved forest ..	1,610	..	2,640	220	2,420	93 12 7	..	1878	
	Kavuttimalai	5,997	..	10,032	189	9,843	223 3 5	..	1878	
	Tenmalai	19,620	..	50,428	200	50,228	592 4 6	..	1977	
	Mudinai reserved forest	..	..	6,464	..	6,464	16 8 0	..	1883	
	Vaiasamalai	7,000	..	12,738	5	12,733	66 13 2	..	1883-84	
	Dumarakadu	..	..	..	..	..	1 1 0	..	1884	
	Chinnasamudram	..	..	..	..	..	..	..	1878	
	Perunkolatturswamimalai reserved forest and Nattampalli.	11.000	..	9,312 7,333	.. 309	9,312 7,024	103 11 4	..	1889	
	Pelamaradur	8,000	..	9,148	150	8,998	..	..	1889	
	Nallapattur	7,000	..	6,748	250	6,498	102 5 0	..	1889	
	Kallakurchi Range.									
	Tagarai	15,000	..	15,400	..	15,400	220 5 1	..	1889	
	Total ..	75,227	5,075	130,243	1,323	128,920	1,450 0 0	6,495 0 0		
Salem ..	*Salem Range.*									
	Vadugampatti block, No. I ..	1,976	1,865 6 9	1,976	200	1,776	255 8 9	2,120 15 6	1881	Renewed tracing, 15 miles.
	Morur block, No. II	799	872 12 11	799	18	781	77 1 2	949 14 1	1881	Do. 5¾ miles.
	Mallapuram block, No. III ..	587	952 7 4	587	..	587	79 9 0	1,032 0 4	1881	First tracing, 2¼ miles. Renewed tracing, 5 miles.
	Ammaneri block, No. VIII ..	252	367 1 4	252	..	252	78 1 4	445 2 8	1882	Do. 4¼ ,,
	Pillapallikombai block, No. VII	981	617 12 10	981	100	881	43 0 8	660 13 6	1882	Do. 6 ,,
	Kariyappakombai do. VI.	531	473 3 8	531	..	531	58 3 6	531 7 2	1882	Do. 4 ,,
	Kangeri block, No. XII ..	1,929	648 12 8	1,929	..	1,929	121 14 8	770 11 4	1882	Do. 9½ ,,
	Pannikaradu block, No. XIV ..	2,645	1,388 13 9	2,645	..	2,645	99 14 5	1,488 12 2	1883	Do. 10½ ,,
	Karuvattuparai do. XV ..	837	886 12 5	837	10	827	53 13 9	940 10 2	1884	Do. 6½ ,,
	Putting out fire in Kurumbapatti reserve.	..	2 2 6	..	..	..	..	2 2 6	..	
	Uttankarai Range.									
	Uttankarai block, No. IX ..	469	609 4 11	469	..	469	75 6 0	684 10 11	1881	Renewed tracing, 6 miles.
	Singarapet do. X ..	2,624	1,738 6 3	2,624	..	2,624	184 5 5	1,922 11 8	1881	Do. 12 ,,
	Harur do. XI ..	1,176	983 8 7	1,176	..	1,176	113 15 8	1,097 8 3	1882	Do. 8¼ ,,
	Tirupattúr Range.									
	Kotur block, No. XXI	1,213	246 5 1	1,213	..	1,213	61 5 6	307 10 7	1885	Do. 5½ ,,

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expected.			
	Krishnagiri Range.	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
Salem—*cont.*	Burgur block, No. IV	220	370 8 8	220	..	220	86 3 9	456 12 5	1883	Renewed tracing, 4 miles.
	Pudár, No. V	1,069	863 11 5	1,069	..	1,069	92 2 0	955 13 5	1883	Do. 5 ,,
	Tegrapalli, No. XIII	499	194 5 11	499	..	499	45 6 8	239 12 7	1884	Do. 4½ ,,
	Hosúr Range.									
	Melgiri block, No. XVI ..	5,461	550 15 3	5,461	..	5,461	78 0 0	628 15 3	1885	Do. 13½ ,,
	Kanavoikottapalle block, No. XVII.	742	181 3 2	742	..	742	28 0 0	209 3 2	1885	Do. 4 ,,
	Gulhatti block, No. XVIII ..	3,248	406 3 8	3,248	..	3,248	83 0 0	489 3 8	1885	Do. 11 ,,
	Munchi do. XIX ..	3,305	409 11 5	3,305	..	3,305	86 0 0	495 11 5	1885	Do. 10 ,,
	Kanavanagasamudram block, No. XX.	416	186 10 7	416	..	416	28 0 0	214 10 7	1885	Do. 4 ,,
	Total ..	30,979	14,816 5 1	30,979	328	30,651	1,829 0 3	16,645 5 4		First tracing, 2½ miles. Renewed tracing 155½ mls.
	Musiri Range.									
Trichinopoly ..	Sengattupatti	3,000	126 0 0	3,000	170	2,830	31 0 0	157 0 0	1885-86.	
	Manmalai	3,000	111 0 0	3,000	..	3,000	26 0 0	137 0 0	1887-88.	
	Kanapadi, T.	11,890	49 0 0	12,000	..	12,000	19 0 0	68 0 0	1887-88.	
	Karuppankadu	1,500	34 0 0	2,000	..	2,000	8 0 0	42 0 0	1887-88.	
	Melúr	3,000	168 0 0	3,000	..	3,000	32 0 0	200 0 0	1885-86.	
	Kanapadi, V	10,000	76 0 0	10,000	50	9,950	41 0 0	117 0 0	1887-88.	
	Palamalai	10,000	60 0 0	10,000	..	10,000	98 0 0	158 0 0	1888-89.	
	Kaiyammankoil tittu	..	..	1,500	..	1,500	83 0 0	83 0 0	1889-90.	
	Kannimarsolai	..	..	2,650	..	2,650	9 0 0	9 0 0	1889-90.	
	Perambalúr Range.									
	Manalodai	..	48 0 0	..	..	..	..	48 0 0	1885-86.	
	Salamatti	7,000	1,187 0 0	7,000	..	7,000	56 0 0	1,243 0 0	1885-86.	
	Valaiyur	..	4 0 0	1,600	..	1,600	71 0 0	75 0 0	1888-89.	
	Total ..	49,390	1,863 0 0	55,750	220	55,530	474 0 0	2,337 0 0		
Tanjore	Tanjore	..	..	..	..	..	..	..		
	Kollegál Range.									
North Coimbatore	I, Jádatallahulla	361	310 7 8	361	(*a*) 22	339	48 1 3	358 8 11	1884-85.	
	II, Udayárpálaiyam	297	297 14 6	297	..	297	24 7 0	322 5 6	1884-85.	(*a*) & (*b*) confined to grass land only.
	III, Baliur	1,186	508 4 2	1,186	(*b*) 5	1,181	34 12 11	543 1 1	1879-80.	
	Satyamangalam Range.									
	IV, Gairmalai	..	42 11 0	520	..	520	11 2 4	53 13 4		
	Total ..	1,844	1,159 5 4	2,364	27	2,337	118 7 6	1,277 12 10		

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.			
	Satyamangalam Range—cont.	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
South Coimbatore.	No. I Tunakaduva Range ..	23,650	2,490 6 0	24,000	..	24,000	455 7 0	2,945 13 0	1882-83	
	,, II Pollachi do. ..	..	82 0 0	..	..	..	70 2 0	152 2 0	1888-89	
	,, III Punachi do. ..	3,140	1,464 8 0	3,140	..	3,140	214 9 6	1,679 1 6	1882-83	
	,, IV Udamalpet do. ..	485	329 4 0	485	..	485	47 9 2	376 13 2	1883-84	
	,, VII Bolampatti do. ..	16,557	1,325 0 0	16,557	15	16,542	350 13 0	1,675 13 0	1884-85	
	,, VIII Sholakarai do. ..	3,000	1,579 12 0	3,000	..	3,000	191 8 9	1,771 4 9	1883-84	
	Cost of badges purchased for fire-patrols.	..	..	..	..	..	111 1 5	111 1 5		
	Total ..	46,832	7,270 14 0	47,182	15	47,167	1,441 2 10	8,712 0 10		
	Special Protection.									
	Reserved Forests.									
	No. I.—Uttamapalaiyam Range.									
Madura ..	Vannatiparai	27,481	1,359 13 2	27,482	640	26,842			1884-85	
	Suranganar	3,566		3,616	250	3,366			1885-86	
	Melagudalur	1,280	1,179 3 0	1,280	..	1,280	884 6 10	3,423 7 0	1885-86	
	Pandavatorai	300		300	..	300			1886-87	
	Machakal	2,310		2,560	5	2,555			1886-87	
	No. II.—Kodaikánal Range.									
	Pambár	4,745	3,415 14 0	4,755	710	4,045	373 11 4	3,789 9 4	1883-84	
	Sengalvarai Ar	5,194	601 11 6	5,210	..	5,210	123 15 6	725 11 0	1885-86	
	Pumbarai and Vilpati valley ..	13,587	1,335 7 6	13,587	..	13,587	192 2 2	1,527 9 8	1885-86	
	Kudirai Ar and Kukkal	19,704	694 2 4	19,705	60	19,645	246 12 0	940 14 4	1886-87	
	Oliyanattu Oddai	3,200	20 0 0	3,200	..	3,200	..	20 0 0	1888-89	
	Perumalmalai	12,800	2,141 9 3	12,800	..	12,800	465 5 3	2,606 14 6	1883-84	
	Amburuvi	3,840	50 1 11	3,840	5	3,835	..	50 1 11	1886-87	
	Arunkanal	2,560	549 6 6	2,560	..	2,560	52 0 0	601 6 6	1883-84	Transferred from reserved lands.
	Kallár	9,600	864 1 6	9,600	..	9,600	270 0 0	1,134 1 6	1885-86	
	No. III.—Dindigul Range.									
	Sirumalai	25,289	1,897 11 6	25,029	500	25,029	376 8 0	2,274 3 6	1885-86	
	Mudimalai	6,086	635 6 5	6,086	..	6,086	140 0 0	775 6 5	1884-85	
	No V.—Alagar Hill.									
	Alagarmalai	17,394	6,865 4 2	17,510	63	17,447	524 7 6	7,389 11 8	1882-83	

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.			
	Reserved Lands.	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
	No. II.—Kodaikánal Range.									
	Mudúgamalai fuel and fodder Reserve.	3,227	900 11 11	3,227	..	3,227	24 0 0	927 11 11	1884-85	
	No. III.—Dindigul Range.									
	Karandamalais	22,400	33 2 0	22,400	..	22,400	..	33 2 0	1887-88	
	Panjantangi	3,200	41 12 0	3,200	..	3,200	..	41 12 0	1887-88	
	No. IV.—Mettupatti Range.									
Madura—*cont.* ..	Waggatumalai fuel and fodder reserve.	4,200	725 1 10	4,200	..	4,200	133 15 4	859 1 2	1884-85	
	Kachakatti do. do. ..	1,694	30 0 0	1,694	..	1,694	..	..		
	Total of Special Protection ..	193,657	23,340 8 6	194,341	2,233	192,108	3,807 3 11	27,147 12 5		
	General Protection.									
	No. II.—Kodaikánal Range ..	110	93 2 8	110	..	110	78 8 8	171 11 4		
	Total of the District ..	193,767	23,433 11 2	194,451	2,233	192,218	3,885 12 7	27,319 7 9		
	Special Protection.									
	Southern Range.									
	Ambásamudram Taluk.									
	i, Block between Sruveyar and Kariyar rivers, Pápanásam hills.	10,477	3,170 8 9	10,477	..	10,477	540 5 6	3,710 14 3	1884-85	
	ii, Block between Surveyar and, Karumpandi Teri and Mutri Mottai.	1,200	1,096 9 6	1,200	..	1,200	385 15 11	1,482 9 5	1885-86	
Tinnevelly ..	iii, Alwar Kurchi block	7,690	1,322 0 2	7,690	..	7,690	423 8 0	1,745 6 2	1886-87	
	iv, Surveyar-Kariyar extension at the foot of the hills.	1,920	554 4 10	1,920	..	1,920	194 3 4	748 8 2	1887-88	
	v, Kadayam block	..	..	3,500	640	2,860	378 4 0	378 4 0	1889-90	
	vi, Kariyar block	..	..	2,000	..	2,000	188 2 0	188 2 0	1889-90	
	vii, Vandalodai	..	..	1,500	..	1,500	283 5 9	283 5 9	1889-90	

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.			
	Nánguméri Taluk.	ACS.	RS. A. P.	ACS.	ACS.	ACS.	RS. A. P.	RS. A. P.		
Tinnevelly—*cont.*	viii, Block of forests in the Kalakad hills.	7,820	1,658 14 11	7,820	..	7,820	163 2 7	1,822 1 6	1885-86	
	ix, Do. do. ..	..	1,439 11 8	12,160	..	12,160	223 4 4	1,633 0 0	1886-87	
	x, Vadagarai block	..	..	2,000	..	2,000	146 2 5	146 2 5	1889-90	
	CENTRAL RANGE.									
	Tenkási Taluk.									
	i, Kuttalam block	5,120	684 7 2	5,120	594	4,526	210 3 8	894 10 10	1887-88	
	ii, Kodiyanallur	2,560	372 5 9	2,560	300	2,260	370 5 4	742 11 1	1887-88	
	iii, Boundary between Chokampatti and Government forests.	..	145 0 0	..	..	..	..	145 0 0	1885-86	
	iv, Boundary between Viranankulam and Government Forests.	..	310 0 0	..	..	..	..	310 0 0	1885-86	
	Sankaranainárkoil Taluk.									
	i, Boundary line between Tirumalai Naicken, Pudukudi mittah and Government forests.	..	30 0 0	..	..	..	..	30 0 0	1885-86	
	ii, Puliangudi and Chintamani blocks.	37,292	850 5 7	37,292	..	37,292	694 12 9	1,545 2 4	1888-89	
	NORTHERN RANGE.									
	Srivilliputur Taluk.									
	i, Chinna Ooty block	..	..	500	..	500	56 0 0	56 0 0	1889-90	
	ii, Pulikamuthu do.	..	..	500	..	500	64 12 0	64 12 0	1889-90	
	Total of Special Protection ..	74,079	11,634 4 4	96,239	1,534	94,705	4,322 5 7	15,956 9 11		
	GENERAL PROTECTION.									
	Northern Range	..	14 10 10	..	..	..	14 6 8	29 1 6	1889-90	
	Central do.	..	11 8 4	..	..	..	6 4 0	17 12 4	1889-90	
	Southern do.	..	26 6 6	..	..	..	43 12 0	70 2 6	1889-90	
	Total of General Protection ..	..	52 9 8	..	..	..	64 6 8	117 0 4		

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90				Total cost up to 31st March 1890	Year when protection commenced.	Remarks.
		Area actually protected	Total cost.	Area attempted to be protected.	Fires	Area actually protected.	Amount expended			
	General Protection—*cont.*	Acs	Rs A P.	Acs	Acs	Acs	Rs A P.	Rs A P.		
Tinnevelly—*cont*	Deduct amount disallowed by the Examiner under this sub-head in the accounts for March 1890	..	..	..	..	..	5 0 0	5 0 0		
	Total of the District ..	74,079	11,686 14 0	96,239	1,534	94,705	4,381 12 3	16,068 10 3		
North Malabar.	Begur	5,122	4,002 0 0	15,366	..	15,366	764 0 0	4,381 0 0	1882-83	
	Kurchiyat	..	491 0 0	18,054	..	18,054	275 0 0	766 0 0	1887-88	
	Add miscellaneous expenditure as per Examiner's account	..	..	..	..	..	13 0 0	13 0 0		
	Total of the District ..	5,122	4,493 0 0	33,420	..	33,420	1,052 0 0	5,545 0 0		
	Nilambúr Range.									
South Malabar ..	Amarampalaiyam Reserve ..	408	377 0 0	468	..	468	58 0 0	435 0 0	1860-61	
	Chathamboraí do ..	700	323 0 0	700	..	700	40 0 0	363 0 0	1872-73	
	Teak plantations do. ..	2,702	2,273 0 0	2,853	..	* 2,853	436 0 0	2,709 0 0	1842-43	* Inclusive of the new blocks I to IV.
	Amarampalaiyam Range.									
	Karimpoya reserve .. .	3,955	742 0 0	3,955	..	3,955	119 0 0	861 0 0	1884-85	
	Nellikutta do	1,824	664 0 0	1,824	..	1,824	73 0 0	737 0 0	1883-84	
	New Amarampalaiyam forest ..	..	..	16,000	..	16,000	131 0 0	131 0 0	1889-90	
	Pálghat Range.									
	Walayar Reserve	2,962	4,822 0 0	3 017	217	2,800	394 0 0	5,216 0 0	1879-74	
	Chenat Nair	15,153	1,247 0 0	15,203	..	15,203	379 0 0	1,626 0 0	1884-85	
	Total of the District ..	27,704	10,448 0 0	44,020	217	43,803	1,630 0 0	12,078 0 0		
	Coondapoor Range									
South Canara ..	Sabladi	208	124 4 9	208	..	208	53 2 7	177 7 4	1884-85,	
	Sarpanamanekadu and Goligundi-guddi reserved lands	150	83 1 8	150	..	150	55 13 6	138 15 2	1886-87 & 88	
	Udipi Range									
	Pillarkan	320	108 2 0	320	..	320	20 0 0	128 2 0	1883-84.	
	Chinkramale	2,558	632 9 9	2,560	90	2,470	376 11 4	1,009 5 1	1885-86 & 87	
	Manajikadu	423	349 14 7	423	..	423	103 15 0	453 13 7	1886-87	
	Tenkahola	2,039	382 3 1	2,039	..	2,039	161 7 0	543 10 1	1886-87	

Area of forest tracts protected from fire during 1889-90—*cont.*

District.	Forest tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Fires.	Area actually protected.	Amount expended.			
	Mangalore Range.	Acs.	Rs. A. P.	Acs.	Acs.	Acs.	Rs. A. P.	Rs. A. P.		
South Canara—*cont.*	Chembagudde	75	24 1 3	75	..	75	2 15 0	27 0 3	1884-85	
	Kuttiyar	25	14 14 9	25	..	25	2 10 0	17 8 9	1884-85	
	Poitagikayarpalle	96	28 11 4	96	..	96	5 11 0	34 6 4	1885-86	
	Hosabattu	..	..	376	15	361	47 1 5	47 1 5	1889-90	
	Todar	..	..	457	5	452	38 10 3	38 10 3	1889-90	
	Uppinangadi Range.									
	Darmastalamandaji reserve ..	9,596	460 7 10	9,600	19	9,581	463 13 5	924 5 3	1887-88 & 89.	
	Kasaragód Range.									
	Parappa	52	146 13 4	52	..	52	.. *	146 13 4	..	* Rs. 11-1-0 incurred and not paid within the year.
	Total of the District ..	15,542	2,355 4 4	16,381	129	16,252	1,331 14 6	3,687 2 10	..	
	Total of Special Protection ..	867,551	1,00,917 9 8	1,017,164	8,479	1,008,685	20,051 10 6	12,069 4 2	..	
	Total of General Protection ..	60,745	162 5 3	205,188	700	204,488	142 15 4	305 4 7	..	
	Grand Total ..	928,296	1,01,079 14 11	1,222,352	9,179	1,213,173	20,194 9 10	1,21,274 8 9	..	

Abstract.

Chingleput ..	....	23,290	2,766 0 0	23,296	2	23,294	549 0 0	3,315 0 0	
North Arcot ..	....	384,520	15,713 0 0	548,027	3,151	544,876	2,081 0 0	17,794 0 0	
South Arcot ..	....	75,227	5,075 0 0	130,243	1,323	128,920	1,420 0 0	6,495 0 0	
Salem	....	30,979	14,816 0 0	30,979	328	30,651	1,829 0 0	16,645 0 0	
Trichinopoly ..	....	49,390	1,863 0 0	55,750	220	55,530	474 0 0	2,337 0 0	
Tanjore	....	..	..	..	..	..	..	..	
North Coimbatore..	....	1,844	1,159 0 0	2,364	27	2,337	119 0 0	1,278 0 0	
South Coimbatore..	....	46,832	7,271 0 0	47,182	15	47,167	1,441 0 0	8,712 0 0	
Madura	....	193,767	23,434 0 0	194,451	2,233	192,218	3,885 0 0	27,319 0 0	
Tinnevelly ..	....	74,079	11,687 0 0	96,239	1,534	94,705	4,382 0 0	16,069 0 0	
North Malabar ..	....	5,122	4,493 0 0	33,420	..	33,420	1,052 0 0	5,545 0 0	
South Malabar ..	....	27,704	10,448 0 0	44,020	217	43,803	1,630 0 0	12,078 0 0	
South Canara ..	....	15,542	2,355 0 0	16,381	129	16,252	1,332 0 0	3,687 0 0	
	Total ..	928,296	1,01,080 0 0	1,222,352	9,179	1,213,173	20,194 0 0	1,21,274 0 0	

Charged in previous years	81,027 0 0
Do. 1888-89	20,053 0 0
Do. 1889-90	20,194 0 0
Total ..	1,21,274 0 0

ANNUAL FORM No. 63.

Prosecutions for Breaches of Forest Rules during 1889-90.

District.	Cases pending from 1888-89.	New cases of the year.					Total cases.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	
1	2	3	4	5	6	7	8
Chingleput	..	..	86	..	6	92	92
North Arcot	5	3	180	55	17	255	260
South do.	50	7	171	168	84	430	480
Salem	60	5	320	131	14	470	530
Trichinopoly	41	..	501	45	100	646	687
Tanjore	9	..	43	2	6	51	60
North Coimbatore	..	3	10	10	14	37	37
South do.	3	1	23	63	20	107	110
Madura	13	5	20	1	2	28	41
Tinnevelly.. Under Forest Act ..	..	6	27	5	7	45	45
Tinnevelly.. Under Penal Code ..	5	1	33	1	1	36	41
North Malabar	2	1	13	14	20	48	50
South Malabar. Under Forest Act ..	..	..	4	..	16	20	20
South Malabar. Under Penal Code ..	..	..	3	..	..	3	3
South Canara	19	2	375	..	34	411	430
Total ..	207	34	1,809	495	341	2,679	2,886

District.	Disposed of during the year.										Cases pending at close of year.
	Convictions.		Acquittals.		Compounded.		Withdrawn.		Total.		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons	Cases.	Persons.	Cases.	Persons.	
9	10	11	12	13	14	15	16	17	18	19	
Chingleput	51	123	39	78	2	5	..	..	92	206	..
North Arcot ..	57	74	67	196	149	320	..	..	253	590	7
South do. ..	86	260	25	93	220	644	16 / (a) 28	38	347 / 28	1,035	105
Salem	284	911	86	455	88	360	43	185	501	1,911	29
Trichinopoly ..	90	149	31	96	488	920	..	..	609	1,165	78
Tanjore	23	42	10	42	23	34	..	..	56	118	4
North Coimbatore ..	13	32	6	20	10	20	1	17	30	89	7
South do. ..	16	47	4	10	74	278	4	6	98	341	12
Madura	24	86	17	63	..	..	..	..	41	149	..
Tinnevelly. Under Forest Act ..	19	51	26	80	..	..	..	..	45	131	..
Tinnevelly. Under Penal Code ..	28	57	8	23	..	..	..	..	36	80	5
North Malabar ..	13	52	7	54	30	65	..	..	50	171	..
South Malabar. Under Forest Act ..	18	28	1	8	..	..	..	..	19	36	1
South Malabar. Under Penal Code ..	2	5	..	..	..	..	..	..	2	5	1
South Canara ..	200	240	58	90	103	104	..	..	361	434	69
Total ..	904	2,157	386	1,308	1,187	2,750	64 / 28	246	2,540 / 28	6,461	318

(a) Believed to have been disposed of by Village Magistrate and no reliable information could be had.

ANNUAL FORM No. 64.

Forest Department, Madras, Southern Circle.

Summary of Revenue of the different Districts, 1889-90.

Budget heads.	Direction.	Chingleput.	North Arcot.	South Arcot.	Salem.	Trichinopoly.	Tanjore.	North Coimbatore.	South Coimbatore.	Madura.	Tinnevelly.	North Malabar.	South Malabar.	South Canara.	Total.
RECEIPTS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the Forests by Government Agency—															
(a) Timber	..	..	3,711	3,206	813	202	..	..	18,772	4,725	8,194	11,256	36,951	11,731	99,561
(b) Firewood and charcoal ..	..	3,951	32,830	5,676	306	15,755	509	..	1,920	3,574	13,759	..	652	2,024	80,956
(c) Bamboos	..	..	165	..	120	16	..	..	..	..	528	..	1,108	8	1,945
(d) Sandalwood ..	..	..	5,688	1,385	5,679	..	..	194	..	..	..	..	..	..	12,946
(e) Grass and other minor produce ..	..	..	..	35	..	55	..	..	4,444	31	2,604	272	156	21,843	29,440
II. Timber and other produce removed from the Forests by consumers or purchasers—															
(a) Timber	..	5,548	44,044	3,850	28,883	9,185	620	7,147	6,980	30,000	8,258	2,585	2,641	2,028	1,51,769
(b) Firewood and charcoal ..	..	7,049	39,366	31,142	26,013	10,576	5,447	6,839	12,799	8,821	26,660	..	5,026	6,090	1,85,828
(c) Bamboos	..	324	20,132	4,396	26,922	3,977	214	11,086	5,664	3,329	787	384	1,038	851	79,104
(d) Grazing and fodder grass ..	..	2,087	4,466	2,683	12,016	6,358	739	23,091	10,341	2,321	158	..	115	..	64,375
(e) Other minor produce	..	3,307	24,639	42,405	34,306	6,378	4,274	35,874	6,523	34,541	16,152	3,388	376	3,352	2,15,615
III. Confiscated, Drift and Waifwood	..	19	431	153	729	33	3	220	126	153	366	82	2	358	2,675
IV. Revenue from Forests not managed by Government	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—															
(a) Fines and forfeitures	..	..	..	12	24	..	..	..	4	..	167	4	208	..	419
(b) Refunds	706	142	421	1,427	571	136	6	518	310	212	1,364	523	93	245	6,674
(c) Other sources ..	7	95	1,966	2,918	1,490	4,766	224	356	1,269	325	663	3,359	1,068	1,304	19,810
Total ..	713	22,522	1,77,859	99,288	1,37,872	57,437	12,036	85,325	69,152	88,032	79,660	21,853	49,434	49,834	9,51,017

MADRAS,
18th June 1889.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

ANNUAL FORM No. 64.

Forest Department, Madras, Southern Circle.

Summary of expenditure of the different districts, 1889-90.

Budget heads.	Direction.	Chingleput.	North Arcot.	South Arcot.	Salem.	Trichinopoly.	Tanjore.	North Coimbatore.	South Coimbatore.	Madura.	Tinnevelly.	North Malabar.	South Malabar.	South Canara.	Total.
A.—Conservancy and Works.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the forests by Government Agency—															
(a) Timber	..	..	2,717	1,813	975	34	..	..	5,433	2,703	4,829	1,637	8,282	10,065	38,538
(b) Firewood and charcoal ..	..	..	17,193	2,155	205	7,932	278	..	1,219	2,391	3,029	..	3	972	35,377
(c) Bamboos	..	..	103	..	70	3	..	..	..	..	113	..	..	9	298
(d) Sandalwood	..	..	1,052	378	778	..	..	..	..	..	..	..	..	..	2,208
(e) Grass and other minor produce	..	..	259	5	..	1	..	..	3,082	..	1,037	175	75	14,790	19,424
II. Timber and other produce removed from the forests by consumers or purchasers	783	1,163	6,931	2,365	10,648	2,403	598	9,542	3,411	4,155	3,180	..	30	3,812	49,021
III. Confiscated, drift and waif-wood ..	..	..	32	45	37	1	..	1	1	3	11	..	1	3	135
IV. Revenue from forests not managed by Government	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
V. Rent of leased forests, and payments to shareholders in forests managed by Government	..	..	..	..	10	..	..	..	2,500	..	..	..	511	..	3,021
VI. Live stock, stores, tools and plant—															
(a) Purchase of cattle ..	..	..	..	..	..	..	..	..	31	100	..	1,303	2,592	..	4,026
(b) Feed and keep of cattle ..	..	..	..	7	44	772	..	..	2,241	645	..	1,626	3,840	..	9,175
(c) Stores, tools and plant ..	586	5	948	38	344	174	..	57	541	337	86	62	296	154	3,628
VII. Communications and buildings—															
(a) Roads and bridges	..	75	839	2,030	..	910	..	834	6,295	3,438	2,185	491	742	..	17,839
(b) Buildings	..	320	1,488	1,675	395	247	10	1,671	867	5,295	2,410	1,858	1,307	109	17,651
(c) Other works	..	1	..	72	..	..	..	..	146	..	..	127	2	98	446
VIII. Demarcation, improvement and extension of forests—															
(a) Demarcation	..	1,729	686	669	3,790	144	27	3,106	175	404	1,062	429	186	890	13,297
(b) Compensation for land and rights	12	161	178	51	306	182	..	..	..	768	..	405	..	..	2,063
(c) Surveys and working plans.	69,108	..	..	..	364	36	10	60	13	3,049	1,650	6	..	972	75,168
(d) Plantations	..	1,170	5,715	3,019	1,048	3,746	1,433	1,125	356	4,275	1,091	834	7,866	979	32,657
(e) Protection from fire ..	..	549	2,081	1,420	1,829	474	..	121	1,441	3,886	4,381	1,052	1,630	1,332	20,196
(f) Other works	..	1,874	5,674	4,949	6,248	4,455	1,931	961	750	..	3,951	97	767	406	32,063
IX. Miscellaneous—															
(a) Refunds	..	80	9	2,484	3,879	31	268	50	8	448	5	899	..	310	8,471
(b) Law charges	..	..	34	8	47	-2	3	21	41	..	33	8	..	25	222
(c) Other charges	..	64	1	9	94	..	2	61	15	122	197	27	32	37	661
Total, A. Conservancy and Works ..	70,489	7,191	45,940	23,192	31,111	21,547	4,560	17,610	28,566	32,019	29,150	11,086	28,162	34,963	3,85,586

MADRAS,
18th June 1890.

(Signed) G. HOMFRAY,
Acting Examiner of Forest Accounts.

Annual Form No. 64.

Forest Department, Madras, Southern Circle.

Summary of Expenditure of the different districts, 1889-90.

Budget heads.	Direction.	Chingleput.	North Arcot.	South Arcot.	Salem.	Trichinopoly.	Tanjore.	North Coimbatore.	South Coimbatore.	Madura.	Tinnevelly.	North Malabar	South Malabar	South Canara.	Total.
B.—Establishments.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs	Rs.
Brought forward—Total A.—Conservancy and Works ..	70,489	7,191	45,940	23,192	31,111	21,547	4,560	17,610	28,566	32,019	29,150	11,086	28,162	34,963	3,85,586
I. Salaries—															
(a) Conservators ..	12,651	..	..	..	..	..	..	..	..	..	..	..	..	..	12,651
(b) Superior officers ..	14,591	2,967	3,912	5,205	11,352	4,248	1,197	10,552	7,800	9,605	8,198	7,952	10,216	6,227	1,04,022
(c) Subordinate Forest and depôt establishments ..	2,074	3,761	11,198	9,962	11,887	5,041	1,315	6,764	8,726	6,974	6,767	4,485	4,638	5,495	89,087
(d) Office establishments	19,644	1,253	2,704	2,756	2,939	1,797	588	3,047	2,935	2,128	2,534	2,510	1,552	2,116	48,503
(e) Deputation and Special allowances.	1,162	..	..	..	..	..	..	..	..	..	..	..	..	..	1,162
II. Travelling Allowances—															
(a) Conservators ..	3,392	..	..	..	..	..	..	..	..	..	..	..	..	..	3,392
(b) Superior officers ..	3,226	1,028	929	1,195	1,322	575	21	1,341	1,589	1,905	1,574	1,682	883	807	18,077
(c) Subordinate Forest and depôt establishments ..	524	886	3,421	2,401	3,399	1,465	351	2,440	2,565	1,679	2,023	1,014	1,476	1,305	24,949
(d) Office establishments	2,811	147	275	382	341	128	40	285	274	382	345	111	107	175	5,803
III. Contingencies—															
(a) Stationery	25	..	2	..	7	..	..	..	..	..	..	6	..	4	44
(b) Carriage of tents and records ..	654	55	128	176	114	82	10	154	46	167	191	6	..	237	2,020
(c) Rents, rates and taxes	..	1	..	453	53	276	..	51	40	13	21	..	..	1	909
(d) Pay of Police guards.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Official postage ..	977	206	534	687	962	364	111	491	285	435	567	155	144	713	6,631
(f) Sundries	1,184	160	403	746	329	56	23	248	167	207	255	200	81	133	4,192
Total B.—Establishment ..	62,915	10,464	23,506	23,963	32,705	14,032	3,656	25,373	24,427	23,495	22,475	18,121	19,097	17,213	3,21,442
Grand Total of Expenditure ..	1,33,404	17,655	69,446	47,155	63,816	35,579	8,216	42,983	52,993	55,514	51,625	29,207	47,259	52,176	7,07,028

Madras,
18th June 1890.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

ANNUAL FORM No. 65.

Forest Department, Madras, Southern Circle.

Outstandings and liabilities on account of contractors and disbursers for 1889-90.

District.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCE DUE.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To department (outstandings).	By department (liabilities).
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Conservator of Forests, Southern Circle ..	..	2,689 0 10	2,689 0 10	84 7 8	2,675 7 2	2,759 14 10	70 14 0	..
Three-fifths of Examiner's office	..	811 13 11	811 13 11	7 0 10	1,268 5 11	1,275 6 9	463 8 10	..
Forest Settlement-officer, Chingleput, &c.	..	330 6 7	330 6 7	37 0 3	293 6 4	330 6 7	..	..
Forest Settlement-officer, Salem, &c. ..	..	306 5 9	306 5 9	..	596 14 5	596 14 5	290 8 8	..
Forest school, Dehra Dun	..	40 0 0	40 0 0	86 0 0	40 0 0	126 0 0	86 0 0	..
Chingleput	..	7,381 1 6	7,381 1 6	131 1 10	7,301 8 9	7,432 10 7	51 9 1	..
North Arcot	..	49,595 10 1	49,595 10 1	37 11 3	49,793 14 6	49,831 9 9	235 15 8	..
South Arcot	..	35,994 11 11	35,994 11 11	2,554 8 11	34,120 9 7	36,675 1 11	680 6 0	..
Salem	..	50,881 6 9	50,881 6 9	792 7 10	50,439 7 0	51,231 14 10	350 8 1	..
Trichinopoly	..	27,940 10 8	27,940 10 8	847 11 9	27,171 5 3	28,019 1 0	78 6 4	..
Tanjore	..	6,248 15 6	6,248 15 6	15 7 10	6,279 14 1	6,295 5 11	46 6 5	..
North Coimbatore ..	..	25,174 10 11	25,174 10 11	835 2 9	25,013 8 3	25,848 11 0	674 0 1	..
South Coimbatore ..	..	24,322 6 2	24,322 6 2	963 9 3	24,784 11 3	25,748 4 6	1,425 14 4	..
Madura	..	60,197 13 1	60,197 13 1	1,276 12 5	61,791 8 2	63,068 4 7	2,870 7 6	..
Tinnevelly	..	46,187 2 0	46,187 2 0	2,653 8 0	45,792 12 3	48,446 4 3	2,259 2 3	..
North Malabar ..	..	7,478 0 5	7,478 0 5	953 15 7	7,491 6 9	8,445 6 4	967 5 11	..
South Malabar ..	..	13,257 0 6	13,257 0 6	896 15 3	12,807 4 4	13,704 3 7	447 3 1	..
South Canara	..	34,731 13 5	34,731 13 5	9,339 2 5	37,689 10 5	47,028 12 10	12,296 15 5	..
Total ..	..	3,93,569 2 0	3,93,569 2 0	21,512 11 3	3,95,351 10 5	4,16,864 5 8	23,295 3 8	..

MADRAS,
18th June 1890.

(Signed) G. HOMFRAY,
Acting Examiner of Forest Accounts.

Annual Form No. 66.

Forest Department, Madras, Southern Circle.

Revenue received and outstandings on account of revenue during 1889-90.

District.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Direction	Timber and other produce.	..	712 7 3	712 7 3	712 7 3	..
Chingleput		..	22,521 3 8	22,521 3 8	22,521 3 8	..
North Arcot		2,521 0 10	1,76,129 7 11	1,78,650 8 9	1,77,859 7 8	791 1 1
South Arcot		125 0 0	1,00,332 1 6	1,00,457 1 6	99,288 1 5	1,169 0 1
Salem		959 5 0	1,39,544 3 6	1,40,503 8 6	1,37,872 4 2	2,631 4 4
Trichinopoly		3,015 8 2	56,619 4 5	59,634 12 7	57,436 14 10	2,197 13 9
Tanjore		..	12,630 6 10	12,630 6 10	12,036 0 10	594 0 0
North Coimbatore		2,750 3 5	84,180 12 2	86,930 15 7	85,325 3 2 (a)+ 177 4 10	1,428 7 7
South Coimbatore		2,774 12 1	69,507 13 2	72,282 9 3	69,152 3 3 (b)+2,324 8 11	805 13 1
Madura		1,539 7 11	88,197 11 3	89,737 3 2	88,032 1 6 (c)+ 444 10 9	1,260 6 11
Tinnevelly		1,739 15 6	78,895 9 4	80,635 8 10	79,659 11 0	975 13 10
North Malabar		1,391 0 0	21,032 11 2	23,323 11 2	21,852 11 2	1,471 0 0
South Malabar		476 8 0	49,015 6 4	49,491 14 4	49,433 14 4	58 0 0
South Canara		1,623 5 0	50,941 4 3	52,569 9 3	49,834 1 9 (d)+1,616 8 0	1,118 15 6
	Total ..	(e) 18,921 1 41	(f)9,51,160 6 9	9,70,081 8 8	9,55,579 12 6	(g) 14,501 12 2

(a) Written off the accounts as per Board's Proceedings, dated 16th September 1889, No. 637.
(b) Do. do. as per G.O., dated 1st May 1889, communicated in Board's Proceedings, dated 11th June 1889, No. 398.
(c) Do. do. as per G.O., dated 22nd August 1889, contained in Board's Proceedings, dated 16th September 1889, No. 637.
(d) Do. do. —*vide* Board's Proceedings, No. 1107, dated 20th November 1889.

Madras,
18th June 1890.

(Signed) G. HOMFRAY,
Acting Examiner of Forest Accounts.

	Rs. A. P.	Rs. A. P.
Under budget head I	6,482 2 8	4,635 5 4
Do. do. II	12,438 13 3	9,866 4 10
Do. do. V	0 2 0	0 2 0
Total (e) ..	18,921 1 11	(g) 14,501 12 2

(f) *Note by Conservator.*—The amount as per Forms Nos. 71, 72-A and 72-B and revenue under head V as per Form No. 64 is Rs. 9,46,210. The difference is apparently due to the Examiner having treated an advance of Rs. 5,000 from timber merchants in North Malabar as value of sales effected during the year (which it is not) and to the omission to write off Rs. 51 and odd, being value of 8 tons of fuel in Trichinopoly sanctioned to be written off the accounts.

Annual Form No. 67.

Forest Department, Madras, Southern Circle.

Financial results of the year 1889-90.

District.	Timber and other produce removed from the forests by Government Agency.		Other revenue.		Formation, protection and improvement of forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	..	..	713	..	..	713	..
Chingleput	3,951	1,113	18,571	6,317	9,003	22,522	16,433
North Arcot	42,394	37,608	1,35,465	42,386	35,193	1,77,859	1,15,187
South Arcot	10,302	9,445	88,986	29,199	22,507	99,288	61,151
Salem	6,918	4,403	1,30,954	50,063	28,979	1,37,872	83,445
Trichinopoly	16,028	15,178	41,409	13,530	17,295	57,437	46,003
Tanjore	509	471	11,527	3,897	5,355	12,036	9,723
North Coimbatore ..	194	1,082	85,131	33,654	14,907	85,325	49,643
South Coimbatore ..	25,136	25,511	44,016	19,551	13,753	69,152	58,815
Madura	8,330	12,859	79,702	28,739	27,584	88,032	69,182
Tinnevelly	25,085	19,109	54,575	19,350	24,358	79,660	62,817
North Malabar ..	11,528	9,789	10,325	4,697	6,848	21,853	21,284
South Malabar ..	38,867	28,863	10,567	3,817	19,468	49,434	52,148
South Canara	35,606	40,700	14,228	8,758	11,739	49,834	61,197
Total ..	2,24,848	2,06,081	7,26,169	2,63,958	2,36,969	9,51,017	7,07,028

ANNUAL FORM No. 68.

Forest Department, Madras, Southern Circle.

Trees felled by Government Agency during the year 1889-90.
(Selection fellings.)

—	Teak.	Rosewood.	Vengai.	Other timbers.	Sandal-wood.	Total.
	NO.	NO.	NO.	NO.	NO.	NO.
Stock of the circle at the beginning of the year ..	..	8	..	343	..	351
Chingleput	..	..	..	..	..	..
North Arcot	..	..	..	1,033	..	1,033
South Arcot	..	..	413	1,358	..	1,771
Salem	..	..	..	831	330	1,161
Trichinopoly	..	..	..	550	..	550
Tanjore	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..
South Coimbatore	327	44	42	103	..	516
Madura	28	28	73	..	..	129
Tinnevelly	..	..	..	123	..	123
North Malabar	691	74	32	..	..	797
South Malabar	8	97	8	691	..	804
South Canara	18	11	2	153	..	184
Total number of trees during the year by selection felling	1,072	254	570	4,842	330	7,068
Total ..	1,072	262	570	5,185	330	7,419
Converted into logs, &c., and shown in form No. 69	1,054	249	568	4,916	330	7,117
Balance on hand at the end of the year	18	13	2	269	..	302

ANNUAL FORM No. 69.

Forest Department, Madras, Southern Circle.

Statement of timber and other produce cut and collected by Government Agency during the year 1889-90.

—	Timbers.						Fuel.	Bamboos.	Sandal-wood.	Minor produce.
	Teak.	Rose-wood.	Vengai.	Other timbers.	Redwood roots.	Total timbers.				
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NOS.	C. FT.	MDS.
Stock of the Circle at the beginning of the year ..	47,057	7,975	1,388	48,480	..	104,900	32,949	3,467	..	2,343
Chingleput	..	..	..	..	..	..	50,370	..	..	..
North Arcot	..	..	..	5,910	11,957	17,867	309,853	2,000	1,038	..
South Arcot	..	..	1,055	5,228	..	6,283	36,769	1(	630	304
Salem	..	..	..	924	..	924	4,403	1,888	1,054	..
Trichinopoly	..	..	..	8,350	..	8,350	244,170	129	..	8
Tanjore	..	..	..	..	..	..	7,881	..	..	..
North Coimbatore ..	..	..	..	..	..	..	..	..	..	..
South Coimbatore ..	18,176	1,804	2,123	7,623	..	29,726	15,154	..	..	1,729
Madura	456	1,296	5,848	5	..	7,605	36,612	..	..	6
Tinnevelly	42	..	..	6,352	..	6,394	136,725	4,730	..	264
North Malabar	31,157	2,668	1,132	..	..	34,957	..	..	..	20
South Malabar	22,212	3,278	527	28,319	..	54,336	6,420	14,511	..	31
South Canara	..	161	28	11,131	..	11,320	19,116	500	..	18,007
Collection during the year for the Circle	72,043	9,207	10,713	73,842	11,957	177,762	867,474	23,759	2,702	20,369
Total ..	119,100	17,182	12,101	122,322	11,957	282,662	900,423	27,226	2,702	22,712
Sold in the forest ..	15,722	8,766	7,712	52,360	20	84,580	798,280	12,325	507	12,010
Used departmentally, wastage written off, &c. ..	4,938	793	587	3,113	..	9,431	424	466	30	95
Removed to sale depôts ..	26,232	1,512	1,740	13,021	11,937	54,442	79,370	10,818	2,074	432
Total disposal ..	46,892	11,071	10,039	68,494	11,957	148,453	878,074	23,609	2,611	12,537
Stock in the forest on 31st March 1890	72,208	6,111	2,062	53,828	..	134,209	22,349	3,617	91	10,175

Annual Form No. 70.

Forest Department, Madras, Southern Circle.

Receipts and issues of timber and other produce in sale depôts during the year 1889-90.

—	Timbers.						Fuel.	Bamboos.	Sandalwood.	Minor produce.
	Teak.	Rosewood.	Vengai.	Other timbers.	Redwood roots.	Total timbers.				
	C. FT.	C. FT	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	C. FT.	MDS
Stock of the Circle at sale depôts at the beginning of the year ..	35,679	73	15	3,681	19,250	58,698	24,863	6,409	1,573	104
Chingleput	..	..	..	..	..	..	..	..	..	..
North Arcot	..	..	..	..	11,937	11,937	7,007	..	1,038	..
South Arcot	..	..	1,004	1,437	..	2,441	..	..	2	..
Salem	..	..	..	924	..	924	..	1,888	1,034	..
Trichinopoly	..	..	..	842	..	842	57,812	..	..	..
Tanjore	..	..	..	..	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..	..	..	..	..
South Coimbatore	7,278	1,341	708	255	..	9,582	..	..	..	236
Madura	..	..	..	..	..	..	11,771	..	..	..
Tinnevelly	..	..	..	660	..	660	..	..	..	170
North Malabar	..	..	..	..	..	..	..	..	..	..
South Malabar	18,954	..	..	..	..	18,954	2,780	8,930	..	26
South Canara	..	171	28	8,903	..	9,102	..	..	..	..
Total received from forests into the sale depôts during the year ..	26,232	1,512	1,740	13,021	11,937	54,442	79,370	10,818	2,074	432
Receipts from one sale depôt into another	1,586	..	..	..	..	1,586	..	..	..	39
Quantity found in depôts in excess of original measurement in the forests	51	..	..	1,800	..	1,851	58	..	..	3
Total receipts, including previous year's stock	63,548	1,585	1,755	18,502	31,187	116,577	104,291	17,227	3,647	578
Sold from depôts	33,253	1,280	1,699	16,190	5,612	58,034	76,765	12,410	1,746	510
Removed from one sale depôt into another	1,586	..	..	..	..	1,586	..	..	..	39
Quantity used departmentally, wastage, written off, &c.	1,467	..	56	158	..	1,681	18,420	117	..	10
Total disposals ..	36,306	1,280	1,755	16,348	5,612	61,301	95,185	12,527	1,746	559
Balance at end of the year ..	27,242	305	..	2,154	25,575	55,276	9,106	4,700	1,901	19

Annual Form No. 71.

Forest Department, Madras, Southern Circle.

Sales of Timber and other produce cut and collected by Government Agency during the year 1889-90.

District.	Timber.										Total Timber.			
	Teak.		Rosewood.		Vengai.		Other timber.		Redwood roots.		From depôt.		From forest.	
	From depôt.	From forest.	From depôt.	From forest.	From depôt.	From forest.	From depôt.	From forest.	From depôt.	From forest.	Quantity.	Amount.	Quantity.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	RS.	C. FT.	RS.
Chingleput	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot	..	..	..	..	..	..	..	5,910	5,612	20	5,612	1,855	5,930	1,951
South Arcot	..	..	..	..	963	51	1,349	3,290	..	..	2,312	2,107	3,341	1,099
Salem	..	..	..	..	..	..	1,009	..	..	..	1,009	813	..	..
Trichinopoly	..	..	..	..	..	..	189	7,473	..	..	189	30	7,473	172
Tanjore	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Coimbatore	12,246	408	1,036	..	708	442	97	87	..	..	14,087	17,025	937	1,841
Madura	..	396	..	1,356	..	5,560	..	5	..	..	..	..	7,317	5,057
Tinnevelly	..	42	..	..	..	..	681	6,614	..	..	681	106	6,656	8,103
North Malabar	..	11,618	..	3,775	..	1,132	..	..	..	..	..	..	16,525	6,256
South Malabar	21,007	3,258	..	3,278	..	527	..	27,362	..	..	21,007	23,135	34,425	13,341
South Canara	..	..	244	357	28	..	12,865	1,619	..	..	13,137	10,585	1,976	1,146
Total ..	33,253	15,722	1,280	8,766	1,699	7,712	16,190	52,360	5,612	20	58,034	55,656	84,580	38,966

Sales of Timber and other produce cut and collected by Government Agency during the year 1889-90—*cont.*

District.	Fuel.				Bamboos.				Sandalwood.				Minor produce.			
	From depôt.		From forest.		From depôt.		From forest.		From depôt.		From forest.		From depôt.		From forest.	
	Quantity.	Amount	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.	Quantity.	Amount.
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	C. FT.	RS.	C. FT.	RS.	NO.	RS.	NO.	RS.	C. FT.	RS.	C. FT.	RS.	MDS.	RS	MDS.	RS.
Chingleput	..	..	50,370	3,951	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot	7,036	1,280	302,846	29,710	..	..	2,000	165	741	5,688	..	..	..	..	..	..
South Arcot	..	..	38,942	5,551	..	..	1	..	88	350	507	2,204	..	..	293	35
Salem	..	..	4,403	285	2,888	143	..	..	880	5,679	..	..	..	..	..	..
Trichinopoly	58,300	5,014	188,974	10,568	..	..	96	16	..	..	..	..	..	..	145	55
Tanjore	..	..	7,881	659	..	..	..	..	..	..	..	..	..	..	..	..
North Coimbatore	..	..	..	..	..	..	..	..	37	194	..	..	..	..	..	..
South Coimbatore	..	..	15,154	1,920	..	..	..	..	..	..	..	..	236	916	1,536	3,789
Madura	7,509	1,271	27,261	2,313	..	..	..	..	..	..	..	..	..	..	6	31
Tinnevelly	..	..	136,726	13,556	..	..	4,730	527	..	..	..	..	256	2,413	146	192
North Malabar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	272
South Malabar	3,920	490	3,640	220	9,522	836	4,948	272	..	..	..	..	18	131	1	24
South Canara	..	..	22,083	2,076	..	..	550	9	..	..	..	..	..	..	9,871	22,242
Total ..	76,765	8,055	798,280	70,809	12,410	979	12,325	989	1,746	11,911	507	2,204	510	3,460	12,010	26,640

Quantity sold.			Sold from depôt. RS.	Sold from forest. RS.
I (*a*)	C. Ft.	142,614	55,656	38,966
I (*b*)	C. Ft.	875,045	8,055	70,809
I (*c*)	No.	24,735	979	989
I (*d*)	C. Ft.	2,253	11,911	2,204
I (*e*)	Mds.	12,520	3,460	26,640
		Total ..	80,061	1,39,608

Grand total of sales during the year both from depôts and forests	2,19,669
Add outstandings due from previous year as per Form No. 66	6,482
Do. amount received as advance on account of sale of timber in North Malabar	5,000
Total ..	2,31,151
Deduct amount of previous year's outstanding written off	* 1,668
Do. amount realised during the year as per Form No. 64	2,24,848
Balance outstanding on 31st March 1890 as per Form No. 66	4,635

* Includes Rs. 51 value of 8 tons of fuel in Trichinopoly sanctioned by the Conservator to be written off the accounts.

ANNUAL FORM No. 72-A.

Forest Department, Madras, Southern Circle.

Timber and other produce cut and collected and removed by consumers or purchasers during 1889-90.

District.	Timber.	Firewood and charcoal.	Bamboos.	Money value of sales.											
				Timber.		Firewood.		Bamboos.		Grazing and fodder grass.		Minor produce.		Total.	
				Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.	Amount of sales.	Amount actually realized during the year.
	C. FEET.	C. FEET.	NO.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Chingleput	48,800	153,838	5,079	5,548	5,548	7,049	7,049	324	324	2,087	2,087	3,307	3,307	18,315	18,315
North Arcot	332,940	1,074,534	1,419,400	44,053	44,044	39,291	39,366	20,213	20,132	4,466	4,466	24,639	24,639	1,32,662	1,32,647
South Arcot	41,398	716,972	53,753	3,850	3,850	31,142	31,142	4,396	4,396	2,683	2,683	42,405	42,405	84,476	84,476
Salem	382,022	1,668,334	1,877,000	28,883	28,883	26,013	26,013	27,478	26,922	11,823	12,016	35,614	34,306	1,29,811	1,28,140
Trichinopoly	133,102	633,132	318,000	9,238	9,185	10,576	10,576	3,977	3,977	6,334	6,358	5,755	6,378	35,880	36,474
Tanjore	7,911	144,842	17,200	620	620	5,809	5,447	214	214	739	739	4,356	4,274	11,738	11,294
North Coimbatore ..	56,831	322,153	801,400	7,147	7,147	6,839	6,839	11,086	11,086	23,091	23,091	34,730	35,874	82,893	84,037
South Coimbatore ..	67,708	837,953	453,200	6,980	6,980	12,799	12,799	5,664	5,664	10,341	10,341	6,523	6,523	42,307	42,307
Madura	452,017	463,575	266,400	28,747	30,000	8,821	8,821	3,329	3,329	2,321	2,321	35,619	34,541	78,837	79,012
Tinnevelly	61,168	458,862	62,800	8,252	8,258	26,282	26,660	786	787	158	158	15,960	16,152	51,438	52,015
North Malabar ..	321	..	25,396	2,585	2,585	..	..	384	384	..	..	3,467	3,388	6,436	6,357
South Malabar ..	30,045	239,000	99,992	2,641	2,641	5,026	5,026	1,038	1,038	115	115	376	376	9,196	9,196
South Canara ..	34,105	317,291	59,629	2,028	2,028	6,090	6,090	851	851	..	..	4,007	3,352	12,976	12,321
Total ..	1,648,368	7,030,486	5,459,249	1,50,572	1,51,769	1,85,737	1,85,828	79,740	79,104	64,158	64,375	2,16,758	2,15,515	6,96,965	6,96,591

Annual Form No. 72-B.

Forest Department, Madras, Southern Circle.

Timber and other produce confiscated and sold during the year 1889-90.

District.	Timber.	Fuel.	Bamboos.	Sandal-wood.	Minor produce in money value.	Total amount of sales.	Amount actually realized.
	C. FT.	C. FT.	NO.	C. FT.	RS.	RS.	RS.
Chingleput	211	25	..	..	1	19	19
North Arcot	827	575	1,405	..	22	431	431
South Arcot	274	776	..	..	31	153	153
Salem	5,840	4,209	8,417	31	13	729	729
Trichinopoly	247	394	..	..	1	33	33
Tanjore	40	20	..	..	..	3	3
North Coimbatore	1,848	420	550	11	3	220	220
South Coimbatore	180	859	463	..	1	126	126
Madura	1,122	324	120	..	15	153	153
Tinnevelly	241	1,304	..	..	20	366	366
North Malabar	50	..	..	..	79	82	82
South Malabar	.	..	100	..	..	2	2
South Canara	4,578	391	40	..	..	358	358
Total ..	15,468	9,297	11,095	42	192	2,675	2,675

Annual Form No. 73-A.

Forest Department, Madras, Southern Circle.

Abstract showing the value of timber and other produce at sale depôts for the year 1889-90.

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at end of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year.
				RS.			RS.	RS.	RS.
Chingleput ..	....	..	..	..	..	..	..	..	..
North Arcot ..	Redwood roots and stumps.	Tons. lb. 385 0	19,250	5,775	..	25,575	7,672	1,897	..
	Babul and casuarina wood.	11 100	442	22	..	410	20	..	2
	Sandalwood roots	16 779	817	1,308	..	1,114	1,782	474	..
	Total ..	412 879	20,509	7,105	..	27,099	9,474	2,369	..
South Arcot ..	Vengai poles	No. 4	15	15	..	..	..	..	15
	Miscellaneous timber ..	98	67·1	34	1	2·4	1	..	33
	Firewood	Tons. lbs. 2 8	138	10	..	..	..	..	10
	Sandalwood roots and billets.	1 1,582	90	528	Tons lb. 0 144	4	13	..	515
	Total ..	3 1,590 / No. 102	310·1	587	0 144 / No. 1	6·4	14	..	573
Salem	Sandalwood	Mds. lb. 1,209 18½ / Tons. lb. =12-1,302	629	3,975	Mds. lb. 1,401 20½	783	5,382	1,407	..
	Miscellaneous timber ..	No. 9	85	85	..	..	..	..	85
	Bamboos	1,000	..	15	..	..	..	..	15
	Total ..	No. 9 / 1,000 / Tons. lb. 12 1,302	85 / 629	4,075	Mds. lb. 1,401 20½	783	5,382	1,207	..

Abstract showing the value of timber and other produce at sale depôts for the year 1889-90—*cont.*

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at end of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year.
				Rs.			Rs.	Rs.	Rs.
Trichinopoly ..	Miscellaneous timber ..	..	..	..	653	..	81	81	..
	Firewood	..	1,600 = 40 Tons.	145	..	1,112	95	..	50
	Total ..	Tons. 40	1,600	145	No. 653	1,112	176	31	..
Tanjore ..	....	..	..	..	..	..	..	..	..
North Coimbatore.	Sandalwood	lb. 1,823	4½	190	..	..	..	..	190
South Coimbatore.	Teak logs	485	17,616	13,210	317	12,139	9,103	..	4,107
	Teak rafters	55	976	549	..	..	..	..	549
	Teak scantlings	..	..	..	184	156	390	390	..
	Rosewood	..	..	..	14	305	184	184	..
	Miscellaneous timber ..	4	113	56	9	265	151	95	..
	Total ..	544	18,705	13,815	524	12,865	9,828	..	3,987
Madura ..	Firewood	Tons. lb. 60 1,711	2,431	228	..	6,693	750	342	..
Tinnevelly ..	Miscellaneous timber ..	4	21	21	..	..	..	..	21
	Minor produce	Tons. lb. 1 110	Mds. lb. 93 12	902	..	lb. 24	4	..	898
	Total ..	4 / Mds. 93	21 / 12	923	..	lb. 24	4	..	919
North Malabar.	....	..	..	..	..	..	..	..	..
South Malabar.	Miscellaneous timber ..	30	1,234	770	30	1,234	770	..	..
	Teak saplings	20,709	17,087	22,000	22,619	14,947	18,000	..	4,000
	Karvas	2,031	..	50	340	..	10	..	40
	Bamboos	5,409	..	400	4,700	..	300	..	100
	Minor produce	lb. Mds. 250 = 10	..	100	lb. 450	Mds. 18	200	100	..
	Total ..	No. 7,440 / 20,739	18,321	23,320	No. 5,040 / 22,649	16,180	19,280	..	4,040
		10 Mds.			18 Mds.				
South Canara.	Rosewood	2	72·9	80	..	..	..	..	80
	Miscellaneous logs ..	91	2,161·4	1,825	..	..	..	..	1,825
	Total ..	93	2,234·3	1,905	..	..	..	..	1,905
	GRAND TOTAL.								
	Teak	540	18,592	13,759	501	12,295	9,493	..	4,266
	Teak saplings	20,709	17,087	22,000	22,619	14,947	18,000	..	4,000
	Vengai	4	15	15	..	..	..	..	15
	Rosewood	2	72·9	80	14	305	184	104	..
	Redwood roots, &c. ..	Tons. 385	19,250	5,775	..	25,575	7,672	1,897	..
	Miscellaneous timber ..	No. 236	3,681·6	2,791	40 / 653	1,501·4	1,003	..	1,788
	Firewood	Tons. lb. 113 1,819	4,611	405	..	8,215	865	463	..
	Rectification	..	..	— 3	..	..	..	..	..
	Firewood	No. 2,031	..	50	No. 340	..	10	..	40
	Bamboos	8,449	..	415	5,040	..	310	..	105
	Sandalwood	Tons. lb. 31 1,006	1,540½	6,001	Tons. lb. 15 1,589	1,901	7,177	1,176	..
	Minor produce	Mds. lb. 103 12	..	1,002	Mds. lb. 18 24	..	204	..	798
		..	..	52,290	..	..	44,918	..	7,372

Annual Form No. 73-B.

Forest Department, Madras, Southern Circle.

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1889-90.

District.	Surveying, &c., Instruments.				Tools.				Machinery.				Furniture.			
	On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Chingleput	19	329	19	329	197	478	202	483	..	..	..	..	26	293	40	395
North Arcot	34	832	34	784	789 cwt. 32-94	1,222	826 cwt. 32-94	1,946	2	(a) 9,893	2	(a) 9,398	85	483	79	424
South Arcot	67	1,274	67	1,274	524	302	549	316	7	271	7	271	158	988	187	1,513
Salem	46	558	52	604	209	884	270	1,184	..	..	..	..	16	115	17	128
Trichinopoly	6	325	8	407	1,141	1,222	983	1,136	..	..	..	..	61	480	61	480
Tanjore	20	..	21	..	155	16	175	16	..	..	..	..	20	..	20	..
North Coimbatore	14	55	18	82	1,012	1,256	846	1,092	..	..	..	..	183	190	259	190
South Coimbatore	49	59	51	59	528	..	534	..	..	42,447	..	42,447	206	49	242	49
Madura	23	491	23	491	146	387	214	634	..	..	..	..	112	432	127	530
Tinnevelly	33	755	33	755	307	511	324	562	..	..	..	..	277	1,469	284	1,483
North Malabar	33	407	33	407	35	194	38	206	..	..	..	..	2	1	4	26
South Malabar	11	198	10	322	814	483	713	452	19	99	17	105	38	149	57	149
South Canara	40	..	36	..	419	..	371	..	1	..	1	..	98	..	103	..
Total ..	395	5,283	405	5,514	6,276 cwt. 32-94	6,955	6,045 cwt. 32-94	8,027	29	52,710	27	52,221	1,282	4,649	1,460	5,367

(a) Includes cost of tramway materials.

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1889-90—*cont.*

District.	Buildings.				Live-stock.				Miscellaneous.				Total.					
	On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		On hand at commencement of the year.		On hand at end of the year.		Difference in value.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	Rs.	Rs.
Chingleput	3	425	4	608	..	..	..	..	..	..	..	..	245	1,525	265	1,815	290	..
North Arcot	40	3,516	40	3,340	..	..	..	..	..	..	..	..	950 cwt. 32-94	15,946	981 cwt. 32-94	15,892	..	54
South Arcot	10	3,865	10	4,301	..	..	..	..	432	1,386	433	1,370	1,198	8,086	1,253	9,045	959	..
Salem	3	75	3	75	..	..	..	..	7	28	7	28	281	1,660	349	2,019	359	..
Trichinopoly	9	1,555	9	1,585	12	537	4	172	222	609	220	460	1,451	4,729	1,285	4,240	..	489
Tanjore	4	323	4	322	..	..	..	..	21	17	21	17	220	356	241	355	..	1
North Coimbatore ..	33	2,750	33	3,520	..	..	..	..	..	..	..	..	1,242	4,251	1,156	4,884	633	..
South Coimbatore ..	36	157	36	157	4	7,700	(b) 5	7,700	37	..	81	..	860	50,412	949	50,412	..	..
Madura	82	4,982	86	10,093	6	120	6	120	..	..	..	..	369	6,412	456	11,868	5,456	..
Tinnevelly	74	7,682	77	9,575	..	..	..	..	..	..	..	..	691	10,417	718	12,375	1,958	..
North Malabar ..	8	1,567	8	1,567	3	4,500	4	6,100	27	220	27	220	108	6,889	114	8,526	1,637	..
South Malabar	19	13,407	22	14,290	8	6,702	8	6,702	168	747	156	923	1,077	21,785	963	22,943	1,158	..
South Canara	17	170	20	170	..	..	..	..	237	..	207	..	812	170	738	170	..	..
Total ..	338	40,474	352	49,603	33	19,559	27	20,794	1,151	3,007	1,152	3,018	9,504 cwt. 32-94	1,32,637	9,463 cwt. 32-94	1,44,544	11,907	..

(b) One not valued.

ANNUAL FORM No. 74.

Forest Department, Madras.

Statement of Elephants in the Southern Circle during the year 1889-90.

PART I.

Elephants in possession of the reporting officers throughout the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of monthly keep including servants and food.		Remarks.
	Elephants.			RS. A. P.	
South Coimbatore.	1. Sankara. ..	28th June 1888. Arrived from North Malabar	Per head ..	38 10 1	
	2. Chloe ..				
	3. Parvathi ..	August 1885. Arrived from South Malabar.			
	4. Karthyayani ..				
North Malabar..	1. Phyllis	Purchased in January 1878	Per head ..	44 3 1	
	2. Lakshmi	Transferred from Anaimalais in 1881.			
South Malabar..	1. Vixen	....	Per head ..	27 0 8	
	2. Peyru				
	3. Sampson				
	4. Eva				
	5. Juno				
	6. Jupiter				
	7. Thebaw				
	8. Mara				
	9 Maharaj				
	10. Jumbu				
	11. Gordon				
	12. Rani				
	Other cattle.				
Trichinopoly ..	Four bullocks	April 1885 and 1886 ..	Per head ..	5 13 4	
Madura ..	1. Two Kodaikánal bulls	Purchased in 1885 ..	Per head ..	9 7 11	
	2. Two Navimpatti garden bulls.	Do. in 1886 ..			

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PART II.

Elephants received in the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of keep including servants and food.		Remarks.
	Elephants.			RS. A. P.	
South Coimbatore.	Rani	May 1889. Purchased in South Malabar.	..	38 10 1	
North Malabar..	1. Peri	Captured in April 1889 ..	Per head ..	24 4 6	
	2. Lalameah	Do in March 1889 ..			
	3. Chenchilpeary ..	Purchased from the Commissariat Department in May 1889.			
	4. Kalyani	Purchased from Mr. Saunders, Superintendent of Keddas, Mysore in October 1889.			
South Malabar..	1. Elizabeth	Captured in January 1890.	Per head ..	32 13 1	
	2. Jessy	Do. in " "			
	3. Eddy	Do. in February 1890			
	4. Mary	Do. in March 1890 ..			
	Other cattle.				
Trichinopoly ..	....	*Nil.* ..	Per head ..	9 7 11	
Madura	Two bulls for Gundenshalah depôt.	Purchased in December 1889.			

PART III.

Elephants gone off the list during the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of keep including servants and food.	Rs. A. P.	How disposed of.
	Elephants.				
South Coimbatore.	.... ..	*Nil.* ..	..	..	
North Malabar.	1. Leila	Captured in April 1888 ..	Per head ..	38 8 4	Sold in November 1889 for Rs. 661.
	2. Chenchilpeary ..	Purchased from the Commissariat Department in May 1889.			Died in December 1889.
	Other cattle.				
Trichinopoly	Seven bullocks	....	Per head ..	8 10 6	Sold for Rs. 286 in November 1889.
	One bullock				Died.
Madura	Two Kodaikánal depôt ponies.	Purchased in 1887 ..	..	9 7 11	Sold in September 1889 for Rs. 105.

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PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE NORTHERN CIRCLE, MADRAS,

FOR THE YEAR 1889-90.

By A. W. PEET, Esq., Acting Conservator of Forests.

CHAPTER I.

Introductory Remarks.

The circle was throughout the year in charge of Mr. J. Sykes Gamble, the Conservator, who made extensive tours and visited all the districts, inspecting all the offices except that of Kurnool.

2. The offices of the District Forest-officers of Godávari, Kurnool, Anantapur and Nílgiris were inspected by the Deputy Collectors of those districts, and notes sent to the Board of Revenue.

3. The following list shews the distribution and movements of the officers in charge of the District Forests:—

Abstract A.—Distribution and movements of Officers.

Districts.	Names of officers in charge.	Number of days in charge.	Number of days in camp.	Percentage of days in camp.	Reasons for absence of permanent officer.
Ganjam	Mr. A. W. Lushington, Deputy Conservator.	293	191	65	Privilege leave for 45 days from 19th May to 3rd July 1889; and 10 days from 6th to 15th January 1890.
	,, W. R. Newman, Forest Ranger.	47	47	100	
	,, A. W. B. Higgens, Acting Collector.	25	2	8	
Vizagapatam, North.	,, A. W. Lushington, Deputy Conservator.	267	..	..	
	Conservator	23	..	..	
	Collector	58	..	..	
	Mr. C. D. A. McArthy, Assistant Conservator.	17	8	47	
Vizagapatam, South.	,, J. S. Battie, Assistant Conservator.	254	..	..	
	,, G. Homfray do. ..	92	..	..	
	,, C. D. A. McArthy do. ..	19	..	..	
Godávari ..	,, J. S. Battie do. ..	273	170	62	Privilege leave for 3 months from 10th August to 9th November 1889.
	M.R.Ry. A. Eggia Sastri, Forest Ranger.	4	..	..	
	Mr. G. Homfray, Assistant Conservator.	88	59	67	

Abstract A.—Distribution and movements of Officers—*cont.*

Districts.	Names of officers in charge.	Number of days in charge.	Number of days in camp.	Percentage of days in camp.	Reasons for absence of permanent officer.
Kistna	Mr. G. Homfray, Assistant Conservator.	23	..	..	Privilege leave for 3 months from 24th April to 23rd July 1889.
	,, W. H. Michael, Assistant Collector.	8	..	..	
	,, T. N. Hearsey, Sub-Assistant Conservator.	15	..	..	
	M.R.Ry. V. Alwar Chetty, Sub-Assistant Conservator.	319	275	86	
Nellore	Mr. J. H B. Brougham, Deputy Conservator.	365	134	37	
Cuddapah ..	,, F. A. Lodge, Assistant Conservator.	365	303	83	
Kurnool	,, P. M. Lushington, Assistant Conservator.	172	65	38	Examination leave for 2 months from 26th May to 25th July 1889.
	,, H. H. Ward, Sub-Assistant Conservator.	53	12	23	
	,, T. N. Hearsey, Sub-Assistant Conservator.	9	1	11	
	,, G. Homfray, Assistant Conservator.	131	57	44	
Bellary	,, W. Carroll, Sub-Assistant Conservator.	247	142	58	
	,, P. M. Lushington, Assistant Conservator.	118	72	61	
Anantapur ..	M.R.Ry T. Somasundra Mudali, Sub-Assistant Conservator.	86	6	7	Since retired.
	Mr. W. R. McCay, Forest Ranger ..	55	33	60	
	M.R.Ry. T. M. Nallasawmy Naidu, Sub-Assistant Conservator.	225	118	52	
Nilgiris	Do. do. ..	131	61	47	
	Mr. T. Sheffield, Deputy Conservator.	234	131	56	

The time spent in camp on the whole was sufficient. In one or two cases settlement cases again interfered with out-door work, particularly in Nellore.

CHAPTER II.

Areas and Boundaries.

4. *Form* 59-*A* gives the areas of reserved forests under the Forest Act including those that have become reserved forests from the 1st April 1890.

5. *Form* 59-*B* gives the area of forests reserved under previous orders. It is given this year because some errors had been found in the Cuddapah returns. The disappearance noted by the Board of the names of some blocks formerly found in form 59-B is due to several blocks being merged together in some cases when transferring the blocks to 59-A or 59-C.

6. *Form* 59-*C* gives the areas of reserved lands. Some errors in the estimated areas of some of these lands have been noted; but it is considered advisable to make the alterations only when they are constituted reserved forests.

7. *Form* 59-*D* gives the areas of leased forests. The orders of Government in Board's Proceedings, Forest No. 428, of 17th July, were received after the forms were in type; so it is hoped that the form may be accepted this year. Both the leased forests of Sandúr and Mudumalai are reserved lands.

8. *Form* 59-*E* gives the areas of forests notified under Collector's orders.

9. The following abstract gives the changes during the year in the various classes of State forests :—

ABSTRACT B.—Classes of forest.

Class of forest.	Area on 31st March 1889.	Added during year.	Excluded during year.	Difference.	Area on 31st March 1890.	Source or cause of increase or decrease.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
A. Reserved forests under Act V.	631	195	..	+ 195	826	195 square miles were transferred from C.
B. Under previous orders ..	..	12½	..	+ 12½	12½	Omission in the last year's return ; for explanation see above.
C. Reserved lands	6,424	(a) 551½	(b) 304½	+ 247	6,671	(a) Of this, 397 square miles have been added during the year and 154½ square miles represent correction of area. (b) Of this, 195 square miles were transferred to A and 109½ square miles excluded at settlement and also by rectification of area.
D. Leased forests	135½	..	..	..	135½	
E. Other do.	23	..	..	..	23	
Total ..	7,213½	759	304½	+ 454½	7,668	

Of the areas added to reserved forests—

92½	square miles were added		in Godávari.
50	do.	do.	in Kistna.
48½	do.	do.	in Nellore.
1	do.	do.	in Cuddapah.
3	do.	do.	in Bellary.
195			

Of the areas added to reserved lands—

10½	square miles were added		in Vizagapatam.
354	do.	do.	in Godávari.
26	do.	do.	in Kistna.
5	do.	do.	in Bellary.
1½	do.	do.	in Anantapur.
397			

These 397 square miles were notified under section 4, while 154½ square miles have been added owing to errors in the areas recorded in the previous year's report.

10. The following is the list of areas notified under section 4 during the year, in continuation of those in previous year's report :—

List of lands proposed and notified under section 4.

85. Godávari ...	...Ungutur		Notification No. 145 of 21st May 1889.
86. Bellary ...	Kurugodu	Notification No. 163 of 10th June 1889.	
	Tekkalakota		
	Suguru		
	Nadivi		
	Halekota		
87. Anantapur ...	Guntakal		Notification No. 252 of 13th August 1889.

88. Godávari	...	Banadapalli ... ... Lododdi ... ... Vatangi ... ... Aminbada ... ... Anantagiri ... ... Laburti ... ... Doramamidi ... ... Virabhadram ... ... Jeddangi ... ... Annavaram ... ... Peddagurangi ... ... Lingamparti	Notification No. 281 of 1st October 1889.
89. Godávari	...	Lakkonda ... ... Molleru ... ... Sudikonda ... ... Mallavaram ... ... Tirumalipalem	Notification No. 282 of 1st October 1889.
90. Do.	...	Jilugumilli ... ... Darbhagudem ... ... Barrinkalapadu ... ... Thaduvai ... ... Marlagudem ... ... Boddadavole ... ... Rajahmundram ... . Nallacherla ... ... Koppili ... ... Kovada	Notification No. 285 of 1st October 1889.
91. Do.	...	Kandikuppa	Notification No 288 of 11th October 1889.
92. Vizagapatam	...	Arlova ... ... Pedimkonda ... ... Kakurlakonda ... ... Yenkatapuram ... ... Kodavaipudi	Notification No. 316 of 22nd October 1889.
93. Kistna	...	Extension of Venkatayapalem ... Extension of No. 16, Bollapalle ...	Notification No. 317 of 29th October 1889.
94. Do.	...	Koakalúr	Notification No. 32 of 11th January 1890.

11. The following abstract shews the comparison of forest areas with other areas in the district, the figures for the latter being taken from Board's Proceedings (Revenue Settlement) No. 536, dated 26th November 1889 :—

ABSTRACT C.—District areas and Forest reserves in square miles.

Districts.	Total area excluding feudatory and tributary states.	Area excluding zemindaris and whole inam villages.	Cultivated area.	Remainders.			Area of reserved forests, reserved lands and leased forests, &c., 59 A to E.	Percentage of column 8 to column 3.	Percentage of column 8 to column 7.
				Uncultivated and forest.	Area for which returns are not available.	Total of columns 5 and 6.			
1	2	3	4	5	6	7	8	9	10
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.		
Ganjam	8,369	2,257	575	380	1,302	1,682	545	24·1	32·4
Vizagapatam ..	16,99½	1,865	190	112	1,563	1,675	47½	2·5	2·8
Godávari	7,858	3,818	1,465	1,581	772	2,353	1,020½	26·7	43·3
Kistna	8,397	5,481	2,996	2,350	.135	2,485	685	12·4	27·5
Nellore	8,765	4,045	1,509	2,413	123	2,536	598	14·7	23·5
Cuddapah	8,729	7,492	1,939	5,553	..	5,553	2,031½	27·1	36·5
Kurnool	7,769	6,180	1,799	4,126	255	4,381	1,715½	27·7	39·1
Bellary	5,905	4,320	2,257	1,902	161	2,063	380½	8·8	18·4
Anantapur ..	5,274	4,309	1,637	2,235	437	2,672	276	6·4	10·3
Nilgiris	957	957	293	664	..	664	368½	38·5	55·4
Total ..	78,715	40,724	14,660	21,316	4,748	26,064	7,668	18·8	29·4

The percentage which the area of reserved forests and lands and leased forests bears to the total area of Government land, excluding zemindaris and whole inam villages, is given in column 9; and the percentage which the area of reserved forests, &c., bears to the whole of the uncultivated land is given in column 10.

In the former comparison the highest percentages (in order) are Nílgiris, Kurnool, Cuddapah, Godávari, and Ganjam; in the latter comparison the highest percentages (in order) are Nílgiris, Godávari, Kurnool, Cuddapah and Ganjam.

It must be remembered, however, that a very small portion of these areas has yet been constituted reserved forest, and these percentages are liable to much variation, since portions of reserved lands are liable to be eventually unreserved.

12. *Reserved Forests.*—The following statement gives the reserved forests constituted year after year since 1884-85. The *minus* entries are in consequence of corrections of areas in former statements.

ABSTRACT D.—Reserved Forests in square miles.

Districts.	During 1884-85.	During 1885-86.	During 1886-87.	During 1887-88.	During 1888-89.	During 1889-90.	Total.
Ganjam	..	..	..	8½	9½	..	18
Vizagapatam	..	..	..	..	14	..	14
Godávari	..	..	..	..	11	92½	103½
Kistna	..	..	..	13	6	50	69
Nellore	..	..	½	37½	3—35	48½	54½
Cuddapah	4	— 1½	269½	78	..	1	351
Kurnool	..	..	..	..	..	..	..
Bellary	..	..	..	..	..	3	3
Anantapur	..	5½	8	..	..	..	13½
Nílgiris	3½	90½	94	14	— 2½	..	199½
Total ..	7½	94½	372	151	6	195	826

13. *Village forests.*—In most districts this matter is left over pending the conclusion of settlement. In the Nílgiris final orders are awaited on this question, and meanwhile free permits are issued over certain areas as in the previous year.

In Nellore the whole question whether the area of Kancha grazing grounds and Shekhada free-grazing areas are to be maintained at their customary extent, even at the cost of Forest reserves, is under reference to the Board and Government.

14. *Fuel and Fodder Reserves along the Railway lines.*—This subject was treated of in a separate report published with G.O., dated the 25th March 1889, No. 228, Revenue.

The Cuddapah district report gives the further information that 13 blocks, aggregating 5,562 acres, have been taken up along the new Villupuram-Guntakal Railway line.

15. The following is a rough estimate of the additional areas which may be proposed for reservation in the various districts:—

	Areas in square miles.
Ganjam	116
Vizagapatam	220
Godávari	...
Kistna	21
Nellore	73
Cuddapah	395
Kurnool	300
Bellary	156
Anantapur	40
Nílgiris	10

Settlement.

16. The following shews the progress of settlement, giving the numbers of blocks and the areas in square miles :—

Abstract E.—Progress of Settlement.

Districts.	Number and area of reserves notified under sections 4 and 16 up to 31st March 1889.		Added in 1889-90.		Total.		Finally notified up to 31st March 1889.	
1	2		3		4		5	
		sq. mls.		sq. mls.		sq. mls.		sq. mls.
Ganjam	35	529	..	..	35	529	3	18
Vizagapatam	1	14	5	10½	6	24½	1	14
Godâvari	47	666½	29	354	76	1,020½	2	11
Kistna	54	659	1	26	55	685	10	19
Nellore	120	579	..	..	120	579	7	6
Cuddapah	108	1,829	*1	*9	109	1,838	19	350
Kurnool	14	1,715½	..	..	14	1,715½	..	..
Bellary	50	313	5	5	55	318	..	..
Anantapur	43	274½	1	1½	44	276	5	13½
Nilgiris	108	295½	..	..	108	295½	51	199½
Total ..	580	6,875	42	406	622	7,281	98	631

Districts.	Finally notified during 1889-90.		Total finally notified.		Balance. Settled and report received in Circle office up to 31st March 1890.		Settled, but report not received in Circle office.		Settlement proceeding.	
	6		7		8		9		10	
		sq. mls.		sq. mls.		sq. mls.		sq. mls.		sq. mls.
Ganjam	..	..	3	18	16	271	3	16	13	224
Vizagapatam	..	..	1	14	..	..	..	..	5	10½
Godâvari	4	92½	6	103½	29	241	2	20	39	656
Kistna	13	50	23	69	24	271½	1	78	7	266½
Nellore	30	48½	37	54½	38	146½	13	32½	32	345½
Cuddapah	..	1	19	351	55	1,027	..	..	35	460
Kurnool	..	..	..	..	10	1,680	..	..	4	35½
Bellary	2	3	2	3	23	82	1	5	29	228
Anantapur	..	..	5	13½	15	91½	2	28½	22	142½
Nilgiris	..	..	51	199½	54	30½	2	1½	1	64
Total ..	49	195	147	826	264	3,841	24	181½	187	2,432½

Note.—The number and area of blocks as given in form 59-C have been adopted The difference in the number of blocks is due to the clubbing of two or more blocks in some cases before or after settlement.

* Wrongly shown as abandoned in 1887-88.

Out of a total area of 7,281 square miles under settlement operations, only 826 square miles have been finally notified under section 16 of the Forest Act, but the settlement of an area of 4,022½ square miles has been completed (though part of it has to be revised), leaving the area of 2,432½ still under various stages of settlement.

The revision, however, above mentioned has proved to be in many cases a very protracted work, more especially in Cuddapah, where the difficulties are unusually great.

17. The following abstract shews the reserved lands included in form 59 (*c*) which are not at present under settlement. These are fodder and fuel reserves, or reserved lands set apart under the Board's or Collector's orders :—

ABSTRACT F.—Reserved Lands not under settlement (included in Form 59-C) in square miles.

Districts.	Reserved Lands as per form 59-C	Proposed Reserved Forests under settlement.	Balance remaining as pure Reserved Lands on 31st March 1890.
Ganjam	527	511	16
Vizagapatam	10½	10½	..
Godávari	917	917	..
Kistna	616	616	..
Nellore	543½	524½	19
Cuddapah	1,668	1,487	181
Kurnool	1,715½	1,715½	..
Bellary	315	315	..
Anantapur	262½	262½	..
Nilgiris	96	96	..
Total ..	6,671	6,455	216

Notes District by District.

18. In *Ganjam* progress has been unsatisfactory. Most of the final notifications for Goomsur had to be sent back by the Board for revision. Hence there was no alteration under 59-A. The settlement of the Berhampore reserves is said to be virtually finished.

Vizagapatam.—Nil.

In *Godávari* the District Forest-officer complains that the services of the Forest Settlement-officer were available only for 6 months of the year. At the close of the year matters stood thus in that district—

92½ square miles finally notified under section 16;
241 do. final reports submitted, but not notified. Of this area some 120 square miles were notified under section 16 too late for this year's return;
20 do. settlement complete but final report not submitted;
656 do. under settlement;

but it is gathered from the District report that a further area of some 100 square miles is virtually settled, though this office has no certain knowledge of the fact.

In *Kistna* the progress was fairly good. During the year 13 blocks were finally notified under section 16. Out of the remaining 32 reserved lands, 27 are fully settled but for the acquisition of some fields in two blocks.

Nellore.—Good progress was made in this district: 30 blocks = 48½ square miles were finally constituted reserved forests, and the remaining tracts, which have been notified under section 4, have been virtually settled, except for a few complications from claims by shrotriemdars and zemindars.

No new tracts were notified, but selections were made in Kanigiri and Atmakúr taluks.

Cuddapah.—Work has been very slow during the year; but the Forest Settlement-officer spent only about 40 days in the district during the year, and work by correspondence is slow. The charges of Forest Settlement-officers have now been subdivided, and it is hoped that work will be quicker. Only one block was finally notified under section 16. The final settlement of several other blocks was delayed because the papers had to be returned for revision; but the settlement work is otherwise complete for an area of over 1,000 square miles.

The final notification of the Vandadi block was submitted before the close of the year, and the settlement of the Madhavaram block was completed, except the acquisition of certain lands.

Kurnool.—Progress in Kurnool was not satisfactory during the year; but the settlement work of a very large area (1,680 square miles) is nearly complete. The cause of delay is a revision of boundary statements, &c., as much more accuracy of description is now insisted on than formerly.

Bellary.—Progress was not very good in Bellary, as much work of revision was necessary. The District Forest-officer complains of want of maps in the unsurveyed taluks. This seems an error, for the survey of the whole of Bellary has been completed with the exception of one taluk which is nearly completed. Maps are not however published of all the districts; but probably had the facts been ascertained, the Survey Department would have set to work first at the maps required for the purposes of Forest Settlement.

Anantapur.—Work was very slow, only one block being notified under section 4, and only two reserves were settled, one by the Head Assistant Collector, Penukonda, and the other by the Deputy Collector, Gooty. The final report is, however, due from the latter, and reports are said to be due for 3 blocks settled in 1888-89.

Nilgiris.—The papers relating to an area of nearly 30½ square miles in the Paranginád amsham, which was finally settled, have been returned for revision of boundary description. The settlement of the remaining lands is in progress.

19. *Cost of Settlement.*—The following shews the cost incurred for special Settlement-officers :—

(1) Mr. D. Jagannadha Row (Godávari, Kistna and Kurnool) appointed on 20th October 1886.

Year.	Cost. Rs.
1886-87	7,409
1887-88	9,727
1888-89	9,818
1889-90	10,759
Total ...	37,713

(2) Mr. I. Sarabhalingam Naidu (Bellary, Anantapur and Nellore) appointed 14th December 1886.

Year.	Cost. Rs.
1886-87	1,622
1887-88	10,760
1888-89	10,109
1889-90	10,301
Total ...	32,792

(3) Mr. McMurray (Cuddapah), date of appointment 10th February 1890.

Demarcation.

20. The following abstract shews the area demarcated according to the latest returns. The total area is 1,380½ square miles, of which 930¾ square miles are demarcated finally and the balance in a preliminary manner :—

Name of districts.	Area demarcated during year 1889-90. Area in square miles.		
	Preliminary.	Final.	Total.
Ganjam	61	144½	205½
Vizagapatam	6½	..	6½
Godávari	93½	79	172½
Kistna	57½	271	328½
Nellore	..	216	216
Cuddapah	130	46½	176½
Kurnool	29½	..	29½
Bellary	67½	49½	117
Anantapur	..	120½	120½
Nilgiris	4½	4	8½
Total ..	449¾	930¾	1,380½

Notes District by District.

21. *Ganjam.*—The work during the year consisted in—

Range.	Old lines cleared. Miles.	Old lines cleared. Cost.	New cut.	Cost.
		Rs.		Rs.
East Goomsur	76	196	52	324
West do.	71	456	32	188
Buguda	20	102	5	23
Suradá	..	69	1	13

The high cost of clearing old lines in West Goomsur is due to digging out stumps.

Godávari.—During the year the work is more clearly classified than the above and consisted in—

Distance in miles.	Nature.	Cost.	Cost per mile.
NO.		RS.	RS. A. P.
73	Preliminary	580	8 0 0
58	Final	801	14 0 0
3	Fencing (trench and mound with palmyra and screw-pine hedge)	290	97 0 0
570	Boundary posts and pillars	510	0 14 0 each.
209	Reclearing old lines ..	760	3 10 0
	Total ..	2,941	

In calculating the cost of demarcation per mile, the cost of fencing and ditching must be kept separate. The cost of final demarcation with the cost of boundary pillars and posts is about Rs. 20 a mile, and considering the thoroughness of Mr. Battie's work, the cost is by no means excessive.

Kistna.—Eighty-one and a-half miles were demarcated with a line 10 feet broad, and loose stones were removed at a cost of Rs. 11-8-0 a mile. One thousand and four hundred boundary marks consisting of cairns 5 feet high cost about 7½ annas each. The average cost for 43 reserves completely demarcated is Rs. 20-4-0 per running mile.

Nellore.—Detailed information is entirely omitted from the report.

Cuddapah.—One hundred and seventeen and a-half miles of boundary were cleared at a cost of Rs. 17 a running mile. The Chitvél boundary work was done on contract and done badly, and the charges are under investigation.

Kurnool.—Very little was done during the year because final notifications were awaited.

Bellary.—Very little work was done, and the cause was said to be press of other work. It is to be regretted that only half the allotment was spent on this work.

Anantapur.—Good work was done. Two hundred and thirty-five and a-half miles were demarcated at a cost of Rs. 1,504-12-0; and 2,152 pillars were erected at a cost of Rs. 680. The average cost was Rs. 9-4-0 per mile, but the work of clearing is easy in Anantapur, and stone is plentiful.

A further expenditure of Rs. 680 odd was made on survey marks.

Up to date 28 blocks with an area of 185 square miles have been taken in hand for demarcation, and 407 miles out of 551 have been completed.

Besides this, 29½ miles have been fenced or planted at a cost of Rs. 92-8-0 a mile.

Nilgiris.—One hundred and twenty-four miles were demarcated at Rs. 15-8-0 per mile and a large number of posts, some 2,369 in all, were renewed at a cost of 1 anna 8 pies each: 164 miles were recleared at a cost of Rs. 7 a mile.

CHAPTER III.

Surveys and Working Plans.

22. *Surveys.*—The only work of any importance was carried out by the Revenue Survey Department in Bellary and Anantapur. The following are notes on the work in each district:—

Ganjam.—Departmental surveys were made of some compartments, but the Conservator stopped these and ordered that plans should be made out for whole blocks. This work is in hand, and the survey of Dimrijoli block is nearly completed. The cost of these petty surveys was under Rs. 550.

Godávari.—Boundary surveys were made departmentally of Upputer 10,000 acres, Narsápur 59 acres, and Bendemurlanka 310 acres.

Kistna.—The survey of Kondur block was made at a cost of Rs. 120, and a map made at 4 inches to the mile.

Nellore.—Two plantations were surveyed by a special officer of the Survey Department.

Cuddapah.—None.

Kurnool.—None.

Bellary.—There were departmental surveys by Range officers of 5 reserves in Hospet taluk, of 2 in Hadagalli, of 2 in Kúdligi, of 3 in Ráyádrug. These surveys were mainly for maps for settlement purposes. There was also a temporary survey party consisting of 2 deputy surveyors, 1 draughtsman and 4 peons said to be attached to the District Forest office but working under the Deputy Superintendent of Survey.

The work turned out by this party seems to have been *nil*; and the facts are under investigation.

Besides these there was regular work conducted by the Revenue Survey Department after July, chiefly in the Adóni and Alúr taluks. Maps of the following reserves were completed :—

Katalam.	Kurimetla.
Halwi.	Bunivasi.
Halekota.	Ráyachóti.
Nandavaram.	

And the following maps will soon be ready :—

Adóni East and West.	Yeruru (3 blocks).
Ganekolu.	Chippigiri (3 blocks).
Kotekallu.	Badenahalu.
Gummanur (3 blocks).	Kudbur.
Timmapuram.	Degalahalu.

The cost is not yet known exactly, but was not to exceed Rs. 70 per square mile.

Anantapur.—There was some small boundary works for survey purposes. Survey by the Madras Survey Department began in August, and work is in progress in 18 reserves, including a resurvey of the boundary of Muchukota.

Nilgiris.—Nil.

23. *Working Plans and Plans of Operations.*—

In *Ganjam* an attempt was made by the District Forest-officer to work a compartment in each reserve ; but this was stopped by the Conservator and orders issued to concentrate the work.

In *Godávari* no regular working plans were made out, but annual plans of operations were made out for th ereserves of Upputer, Narsápur, Bendemurlanka and Coringa.

In *Kistna* annual plans of operations were made out for all the reserved forests as they stood in 1888-89 ; but these plans require revision.

Nellore.—The only reserves under working plans are (*a*) the casuarina plantations and (*b*) the Srîharikóta Reserved Forest.

(*a*) The old working plan for these plantations arranged for the clean felling of annual coupes. This was modified by the Conservator, and a certain number of trees only, viz., 75 to the acre, were felled over an extended area. Suppressed and badly-grown trees are got rid of, and increased advantages given to the remainder. It is hoped also that the felled stumps will throw out coppice shoots, for it is noted that coppice of casuarina succeeds best where there is some protection afforded by trees around.

This scheme was tried during the year in—

Dugarázpatam.

Years.		ACS.
1880	Planting 1st part	35
1880	„ 2nd „	24
1881	„ 1st „	7
1881	„ 2nd „	34

Tamminapatam.

1880	Planting 1st part	40
1880	„ 2nd „	24

Varani.

No. 1	Plantation	40
„ 2	„	40
„ 3	„	40

Vutukur.

No. 1	Plantation	32
„ 2	„	60

The result of the working of the Nellore Plantations is given as appendix (B). The total expenditure up to the end of the year is Rs. 1,81,427, and the total receipts are Rs. 89,958. The receipts during the year were Rs. 7,532; but the market rates were very low, falling to 4 rupees a ton.

Srîharikóta.—The working plan is as before; the forest is divided into khandams which are pollarded on a rotation of 12 years.

Cuddapah.—Annual plans of operations were made out for Kodur Red Sanders Plantation, for Uparapalle, Reddipalle, Pullampet, Mittamidapalle and Kamalápuram Plantations, and for Thanakonda Reserve.

Kurnool.—Nil.

Bellary.—The rough working plan made out formerly by the Conservator was not adhered to; and "Improvement thinnings" were too costly and were badly done. The Collector's remarks tend to shew that this result was due to Mr. Carroll having left the work to an incompetent Ranger, but the blame is tempered by a remark on the inadequacy of the establishment.

Annual plan of operations was made out for the Sandúr forest.

Anantapur.—A plan of operations was made out for Khojjapalle Reserve. Under this plan 2 blocks were felled.

In one block 100 babul trees (of 48 inches girth and over) yielded 7,706 cubic feet of timber and branchwood.

Nilgiris.—The working plans were generally adhered to which were made out for Cairn Hill, Aramby, Governor's Shola, Coonoor Peak, Bleak House, Bandy Shola, Black Bridge, Ghât Reserve and Barliyár (see Inspection note, dated 6th April 1887). The result of felling is given in appendix (C) to this report. The natural sholas were, however, not worked as proposed as the orders of Government restricted felling in them.

A working plan was made out by the Conservator for the wattle plantations of Snowdon, Brooklands, Marliamund and Sheffield.

Plans of operations for Rallia and Benne were made and carried out during the year.

CHAPTER IV.

Protection and Improvement.

(a) Establishment, and Ranges and Beats.

24. *Establishment.*—The following abstract shews the sanctioned establishment of the year compared with that of last year:—

	For the year 1888-89.	For the year 1889-90.	Difference.	Remarks.
Permanent.				
Conservators	1	1	..	The name of Mr. Higgins, C.S., was kept on the list of the Forest Department during his furlough till August 1889, when he returned to the country and went back to Revenue duty.
Deputy Conservators	4	4	..	
Assistant Conservators	7	7	..	
Sub-Assistant Conservators	4	6	+ 2	
Rangers	21	24	+ 3	
Foresters	49	49	..	
Forest Guards	343	348	+ 5	
Clerks	35	35	..	
Peons	96	96	..	
Total	560	570	+ 10	
Temporary.				
Surveyors	7	8	+ 1	
Draughtsmen	3	7	+ 4	
Foresters	5	5	..	
Overseers	1	1	..	
Depôt Gumastahs	34	27	— 7	
Watchers	65	82	+ 17	
Tannah peons	248	268	+ 20	
Lascars	18	16	— 2	
Mistries	39	5	— 34	
Gardeners	105	105	..	
Mahouts and Kavadies	6	14	+ 8	
Boat syrang	1	3	+ 2	
Clerks	16	19	+ 3	
Peons	30	38	— 1	
Total	587	598	+ 11	

The difference was very small, for the proposals regarding a large change in the strength of the establishment were not accepted by Government during the year.

The superior staff consisted of—

Name.	Rank.	Date of appointment to service.
J. S. Gamble	Conservator	1872
F. D'A. Vincent	Deputy Conservator, II Grade	1874
A. W. Lushington	Do. IV ,, ...	1882
J. H. B. Brougham	Do. IV ,, ...	1864
T. Sheffield	Do. IV ,, ...	1860
G. Homfray	Assistant Conservator, I ,, ...	1882
J. S. Battie	Do. I ,, ...	1879
F. A. Lodge	Do. I ,, ...	1883
H. T. D. Sweet	Do. II ,, ...	1884
P. M. Lushington	Do. II ,, ...	1886
C. D'A. McArthy	Do. III ,, ...	1888
A. B. Jackson	Do. III ,, ...	1889
Sub-Assistant Conservators.		
T. M. Nallasawmi Naidu ..	Sub-Assistant Conservator, I Grade ..	1876
V. Alwar Chetty	Do. do. I ,, ..	1886
H. Stafford	Do. do. II ,, ..	1870
T. N. Hearsey	Do. do. II ,, ..	1887
H. H. Ward	Do. do. II ,, ..	1881
T. G. A. Gaudoin	Do. do. II ,, ..	1872

Of this staff, Mr. Vincent has been on leave without pay for over three years; and it is questionable if Mr. Sweet will recover his health sufficiently to return to the service.

Of the rest of the staff, Mr. Sheffield's services are lent from the Southern Circle; and he will shortly retire. Neither Mr. Sheffield nor Mr. Brougham can rise in the service beyond a stipulated grade.

Mr. Battie was appointed in this country. The rest of the superior staff from Mr. Lushington downwards are trained men; but are all under eight years' service.

Mr. Homfray's health is seriously impaired, and short leave was granted during the year to two or three officers to avoid the probable necessity for longer leave, if the strain could not be relaxed.

Nothing more need be added to the remarks made in last year's report to shew that the department is undermanned.

Ranges and Beats.—These for the most part are the same as last year, as no material increase has been made to the establishment. The number of Ranges was sixty-two, foresters in many cases having to hold charge of Ranges.

(b) General Protection and Breaches of Forest Law.

25. The following abstract shews the record of facts connected with Forest offences during the year:—

Abstract G.—Forest offences (see Form No. 63).

Year.	Brought forward from previous year.	Cases added.	Cases disposed of.							Balance.	—
			Cases.	Persons.	Percentage of cases withdrawn.	Percentage of cases compounded.	Amount realized.	Percentage of cases convicted.	Percentage of cases acquitted.		
	CASES.						RS.				
1888-89	125	1,733	1,577	3,855	*Nil.*	27	1,818	53	20	{ 179 102	} Cases compounded.
1889-90	281	1,355	1,478	3,563	*Nil.*	35	2,744	46	19	158	

The number of cases was considerably less than last year, but there was an increase in the number of cases compounded. The percentage of convictions was lower than last year.

Ganjam.—The District Forest-officer gives as his reason for the increase in number of cases compounded that this method of settling the matter is easier for both parties; and the Sub-Magistrate of Goomsur showed a direct tendency towards antagonism against the Forest Department and it was for some time almost impossible to get a conviction before him.

Godávari.—Slight increase in number of prosecutions.

Cuddapah.—The question is, however, best summed up in the following quotation from the District Forest-officer's report:—

"Systematic theft of timber still obtains in the Palkondas and Nallamalais; the timber is removed by night; and, once outside the forest, shrotriem and zemindari permits are produced to cover it. Guards' beats are so large that timber stealers can generally find out when the guards are not in the portion of the forests in which they intend cutting. Moreover, the honesty of the guards is not above reproach; in some places they are systematically bribed by the systematic timber thieves, and although frequent change of guards is resorted to, the timber trade pays so well that every new guard is bought over.

"The Ráyachóti Ranger was benighted in the Palkondas one night, at about 11 P.M.; he came across a large gang of men (he estimates them at 100) carrying red sanders timber towards Cuddapah. As soon as he was seen the wood was passed and they all bolted. A short time afterwards over a hundred red sanders poles and posts were found hidden at the foot of the Palkondas near Cuddapah. On information received the Badvél Forester had a track leading into the Nallamalais watched one night. Five cart-loads of teak were seized and taken to Nayanipalle, where the village magistrate refused to give a receipt for the timber handed over to him, saying that having heard that unclaimed teak timber was lying in the reserve, he had sent carts to bring it out. The above cases are samples; many of the village officers in villages adjoining the forests are the leaders of the trade in stolen timber, and until a considerable addition is made to the subordinate staff, the rifling of the forests will continue. If it is unsafe to leave rupees unwatched, it is equally unsafe to leave valuable forests insufficiently protected."

The District Forest-officer's conclusion that an increase in the subordinate staff is what is wanted hardly follows from his description of the untrustworthiness of Forest guards. The wants are a stronger upper staff as well, efficient transit rules, and an amendment of the Madras Forest Act on the lines of amendment proposed and carried out by the Honorable P. P. Hutchins (Act V of 1890) for the India and Burma Forest Acts.

(c) FOREST FIRES AND FIRE-PROTECTION.

26. Form No. 62 gives the details of fire-protection. The following abstract gives a comparative statement of the results in two years with the total cost on fire-protection up to date:—

ABSTRACT H.—Fire-protection (see Form No. 62) in square miles.

Total cost up to 31st March 1889.	1888-89.				1889-90.				Total cost during year 1889-90.	Total cost up to 31st March 1890.
	Area attempted.	Area burnt.	Percentage protected.	Average cost per square mile protected.	Area attempted.	Area burnt.	Percentage protected.	Average cost per square mile protected.		
RS.	SQ. MLS.	SQ. MLS.		RS.	SQ. MLS.	SQ. MLS.		RS.	RS.	RS.
71,917	1,667	229	86	10	2,700	200	92·5	6½	16,560	88,477

In making this abstract the first column in form No. 62 has not been taken into account, for it seems to the Acting Conservator that this column is slightly misleading.

The figures entered in this column of form No. 62 show the area actually protected during the year previous to that under report, whereas the second column of form No. 62 shows the total expenditure on all previous years up to the end of the year previous to that under report. If the areas attempted for protection were always the same, it might be correct to give the information entered in the first column, but not only are these areas increased in some districts by the addition of fresh areas, but they are occasionally diminished in some districts, and the areas under protection are altered in others.

It may be advisable to keep a record of the total expenditure up to date, but setting this expenditure against the area protected during the previous year seems erroneous.

A comparison of the figures for two years shows that over 1,000 square miles more were attempted for protection this year, that a higher percentage was protected at a lower average cost per square mile. These figures tend to show that increased attention during the year was given to this important matter of conservancy.

It is very difficult to generalise on the figures submitted from different districts, for the conditions are very variable. In some places one or two watchers are sufficient to protect a reserve; in others the most elaborate and costly fire-lines fail.

Notes District by District.

Ganjam.—The percentage of failure was $5\frac{1}{2}$, and the cost under Rs. 2 per square mile.

Godávari.—An additional area of 55 square miles was placed under special fire-protection, beyond the area under protection last year. Only 460 acres were burnt; five blocks not liable to be burnt, such as mangrove forests, are omitted from the list this year.

Kistna.—The only serious fire was in Kondapalli, where 1,000 acres were burnt. Fires occurred in four other reserves, but were extinguished after only 35 acres were burnt.

Nellore.—The results were good on the whole. Nearly 7,000 acres were burnt on the Rápúr Veligondas by a fire said to have come from Cuddapah. Mr. Brougham submits some maps which are appended to this report on the principle suggested for fire returns. Fire-patrols were employed only on the Veligondas, the plain forests being looked after by the ordinary staff.

Cuddapah.—The area under protection as compared with the former year was very considerably increased, as an attempt was made to include the whole of the Seshachellam Reserve and the Lankamalais and the Nallamalais under protection. A portion only of the Lankamalais was saved, the fire as a rule sweeping through the whole tract every year.

Complaints were received of the want of co-operation of village reddis in preventing the spread of fires.

Kurnool.—The area attempted was increased by the addition of the South Veligonda and Rámallakót forests. The two Nallamalais blocks were not successfully protected.

Bellary.—The serious fire reported in Board's Proceedings, No. 592, Forest, dated 6th December 1889, occurred towards the end of the fire season, April to July 1889. As regards the later fire season, January to March 1890, during which a sum of Rs. 2,350 odd was spent, the operations must be considered very successful, as out of an area of 289 square miles systematically attempted, 96 per cent. escaped.

Anantapur.—The operations were very successful. Out of an area of 90 square miles attempted, only 1 per cent. was burnt.

Nilgiris.—The fires on the uplands were confined chiefly to grass lands and did little damage. There were, however, serious fires in the Moyar and the Sígúr forests. The returns show only a very small area burnt in Mudumalai forest, under 900 acres. If they are to be relied on the immunity from fire is wonderful; for in all these forests where the grass is long and the vegetation luxuriant, there are numerous dangers to contend against, the worst arising from the jungleman inside the forests.

(d) GRAZING.

27. The total receipts under this head compared with the receipts last year were—

ABSTRACT I showing fees for grazing and grass removed by purchasers.

1888-89.	1889-90.	Differences.
Rs. 77,459	Rs. 79,470	Rs. + 2,011

The general results do not show much difference. The returns were slightly higher from Godávari, Nellore, Cuddapah, Bellary and Anantapur, and lower from Kistna, Kurnool and the Nílgiris.

The information called for in G.O., dated 7th May 1890, No. 314, Revenue, communicated in Board's Proceedings, Forest No. 290, of the 21st idem, relative to the grazing in forests of sheep and goats is given in Appendix E.

Notes District by District.

Ganjam.—Returns almost *nil.* It is stated that some additional forests are to be open to grazing during the current year.

Vizagapatam.—Hardly anything.

Godávari—Has received special attention during the year. The returns have not been large, being under Rs. 2,000. The following general principles have been adopted:—

(1) Goats and sheep excluded from all Reserved Forests and Reserved Lands.
(2) Grazing prohibited entirely in certain small reserves in low country.
(3) Grazing regulated and allowed only on payment in all other reserves.
(4) Exception made in favor of jungle tribes, Koyas and Reddis, who are allowed free grazing.

Kistna.—As heretofore grazing dues have formed a large proportion of the Kistna revenue, the sum of Rs. 48,541 being collected under this head; but a step towards limiting grazing was made during the year, and goats were excluded from all reserves, and grazing prohibited in part, or the whole, of 17 blocks.

Nellore.—Grazing kanchas were leased as usual, the returns being Rs. 16,036 as against Rs. 14,769 last year.

Cuddapah.—There is need of correction of the remark made in last year's annual report that "the Reserved Forests and proposed Reserves of which the settlement was complete were closed against grazing, other forests were left open for grazing on payment." This was not the case, for grazing was permitted on payment in Reserved Forests with the exception of a few closed blocks (chiefly fire-protected blocks), and in forests of which the settlement was complete, and was free in other forests; and the same system was in force during the year under report. Fees were issued at full rates for 13,924 head of cattle. A large number of Nellore cattle come into the district, and the question has been raised whether extra fees should not be charged on these alien cattle.

Kurnool.—Grazing fees were collected only in the Nallamalais and Veligondas.

Bellary.—The returns were trifling.

Anantapur.—Only half fees were charged. Grazing was permitted for part of the year in all reserves in the case of cattle; but sheep and goats were excluded. After the 1st July grazing was not permitted in the Reserved Forests of Somarazmalai, Kottakota and Narsampalli, nor in the Reserved Lands of Muchukota or Kalyándrug, North and South.

Nílgiris.—Full rates were charged in Ootacamund and Coonoor settlements and at Naduvatam. One quarter rates were charged in Kótagiri, Kullar and Melúr. The rights of grazing were sold in Moyar, Singara, Bockipuram, Kalhatti and Northernhay Reserves, but fetched a very trifling sum. Grazing was not properly checked in Mudumalai or Sígúr Forests.

(e) Natural Reproduction.

28. This subject is not very clearly treated in many of the district reports.

Ganjam.—The only note was as to the havoc caused by cattle entering into the Kaliamba reserve after felling, and to the marked improvement after they were effectually excluded.

Godávari.—The effect of protection is thus referred to by Mr. Gamble in an inspection note. "I can testify to the excellent improvement in the growth (in Devancheru block) and can only say that the work at Devancheru already shows what can be done with even a very unpromising looking area. The better trees are fast going ahead and the undergrowth is nearly impenetrable." The District Forest-officer goes

further, and says that when first taken in hand this was the poorest piece of scrub in the district, and strict protection has been in force only 2 years.

The best instance of protection against fire and grazing is shown in the fine tract of Beddadavole.

Kistna.—Good results are said to be clearly visible in the Kondavid and Bellamkonda blocks which have been closed against grazing for 2 years.

Nellore.—No special remarks.

Cuddapah.—The growth in the blocks cut over in the Balapalle Working Circle was much impeded by a strong growth of *strobilanthes*, but came on fairly well when this was cleared away.

In the Seshachallam reserve, natural reproduction is very poor in many parts, owing to the fact that forest fires have not been effectually excluded in former years, and a fire does excessive damage when the grass is 6 feet high. Very special care will have to be taken with such reserves when the establishment is strong enough to protect them effectually.

Kurnool.—There was good reproduction in the blocks cut over for the supply of fuel to the Bellary-Kistna Railway, but unfortunately the young growth was much injured by fires.

Bellary.—The effects of protection are seen by a comparison of the protected blocks with those of the Rajah's forests adjoining. It was noted that the young growth in a compartment felled in 1884-85 lost its leaves a month earlier than the growth in a compartment where thinnings only had been made. Satinwood and *Terminalia tomentosa* both coppice well here.

Anantapur.—In Muchukota, where the soil is red and stony, and the main growth is *Hardwickia binata*, seedlings of *Hardwickia* still appear and die down in the hot weather. It is believed, however, that these seedlings do not all die, but that the roots of some perish; and it is believed that a gradual improvement is going on. The old trees are vigorous. In the tract of Kottakota which has been surrounded by a wall of stone, the growth of trees of various kinds and the crop of seedlings are wonderfully good. Protection has been real and effective here. In the Amagondapolliem reserve *Hardwickia* seedlings are coming on fairly.

Nilgiris.—In Mudumalai, which is a tract of high forest in the regular teak belt, the growth of seedlings and shoots in the thinned compartments 3 and 4 of block II is very good.

At Benné, which is a similar tract of forest, the shoots from trimmed stools are growing very rapidly.

In the uplands, the reproduction in sholas where the creepers have been cut and the undergrowth cleared is good, as examples may be named Ghát Reserve, Barliyár, Kattapallam, Longwood, Constantia, Lovedale, Doddabetta.

The growth of coppice in the *Eucalyptus* plantations is very regular and good.

(f) Artificial Reproduction and Cultural Operations.

29. The following is an abstract of the cost and progress of work on plantations, topes, and other cultural operations :—

Abstract J.—Plantations and Topes (see forms 60 & 61).

	Up to 1888-89.		Added during 1888-89.		Added during 1889-90.		Total	
	Area in acres.	Cost.	Area in acres.	Cost.	Area in acres.	Cost.	Area in acres.	Cost
		Rs		Rs.		Rs		Rs
Plantations	7,092	4,32,224	400 — 347½	14,210 — 24,144	— 382½ — 7	13,979 — 371	7,519½	4,35,898
Topes	13,715	1,10,932	— 6,850	2,215 — 1,575	41 — 51	2,125 — 1,936	6,855	1,11,761
Other charges (cultural operations).	977½	6,401	129½ — 333	1,509 + 1,134	397½ ..	2,941 — 20	1,171½	11,965
Total ..	21,784½	5,49,557	529½ — 7,530½	19,068 — 25,719	820½ — 58	19,045 — 2,327	15,546½	5,59,624

Most of the figures have been previously explained; but as the form in the appendix does not clearly explain the figures, the following explanation is given.

In the column of "areas added in 1888-89," the *minus* quantity, 317½ acres, is thus composed—

1	plantation of	20 acres	sold.
1	„ of	24 „	exchanged.
2	„ of	44 „	cleared.
1	„ of	23 „	struck off because not a regular plantation, but natural growth
4	„ of	27½ „	transferred to cultural operations.
		209 „	rectification of area.
		347½	

The *minus* quantity of 6,850 acres is thus composed—

Topes in Ganjam ...		1,063 acres	struck off the list, as they were misnamed topes, consisting only of scattered trees in villages.
„ in Cuddapah.		5,764 „	
1 tope	... ...	21 „	abandoned.
1 „	... ...	2 „	transferred to plantations.
		6,850	

The *minus* quantity 333 is thus composed—

Acres.	
3½	small teak plantation in Ganjam struck off list as a failure.
51	in Vizagapatam being not really plantations, but groups of sál.
260	transferred to plantations in Cuddapah.
4½	struck off in Cuddapah.
14	omitted in Bellary, being natural babul tracts.
333	

In the column of "areas added during 1889-90," the *minus* quantity of 7 acres was in consequence of the clearance of this area. The *minus* quantity of 51 acres was thus composed—

8	topes of	30 acres	in Godávari transferred to Poramboke.
3	„ of	13 „	in Kistna sold.
3	„ of	8 „	in Kistna omitted as non-existent.
51			

Under the head of cost (1889-90) the sum of Rs. 20 was deducted because a plantation at Hampi costing that sum was abandoned.

30. Under this head the following work was done in the various districts.

Ganjam.—A commencement was made in Chatrapur and the Podara block in Berhampore. About 100 acres in each were partly sown, partly planted with Nim, tamarind, and *cassia tora*. Heavy rains and heat destroyed many seedlings, but the District Forest-officer estimates that 30 per cent. of 3 lakhs of seedlings remain.

The cost at Chatrapur was Rs. 179; at Podara Rs. 239.

Large plantings of Arabian dates are in progress. The *Eucalypti* failed.

Godávari.—There are two plantations of casuarina; 9 acres were added to that at Narsápur and 263 acres to that at Bendemurlanka.

Nine acres were planted in the former at a cost of Rs. 310 and 13 acres in the latter at a cost of Rs. 325.

Two hundred and fifty seedlings of *Eucalyptus* planted out in the latter are doing well.

Kistna.—Ten acres of casuarina were planted in Gopukandipalem, and 8 acres of casuarina, maddi and neredu in Kanukollu.

Vacancies were planted up by gardeners without any additional cost.

Nellore.—A new experiment was tried, viz., to transform parts of the casuarina plantations into a forest of indigenous trees. Sowings have been made in certain compartments after removing a certain number of casuarinas and leaving others to shelter the seedlings. This was tried during the year over an area of 70 acres in

the Dugarázpatam, Tammenapatam and Kottapatam plantations. It failed in the two former, but the seedlings are 6 inches high in the latter.

This experiment will be watched with care, because the same land will not go on producing casuarina crops indefinitely, and attempts are being made to find out some less expensive way of restocking felled areas than the expensive method of regular planting.

Casuarina planting.—Seventy acres were planted up at Dugarázpatam, and 30 acres at Kottapatam, but almost the whole of the seedlings at the former were destroyed by the cyclone of December; out of 35,000 only some 4,000 remain.

Srítharikóta.—Blanks in the forest over a space of 150 acres were sown with seeds of indigenous trees, but the seedlings as last year died down during the hot weather.

Cuddapah.—The average girth in the sample area of the Red sanders plantation, which is given annually, was 21·39 inches.

Seedlings planted in Balapalle to fill gaps are doing well.

Tangedu (*cassia auriculata*) sown in furrows in blank spaces in certain plantations dies down during the hot weather, but reappears next year. That sown 4 years ago is now ready to cut.

Kurnool.—Nil.

Bellary.—Nil.

Anantapur.—Five pounds of Nim seed sown in block II of Khojjapalle, and 2,500 palmyra seeds in block I with success.

Nilgiris.—The season was a good one, and the planting succeeded. In Aramby and Cairn Hill the new planting was with *Frenela*, *Cryptomeria*, *Cypress*, *Casuarina suberosa*. In the Rallia reserve 23 acres were planted with *Frenela* and *Pinus longifolia*, and in the Kullar reserve 100 acres were planted up with Mahogany, *Swietenia macrophylla*, *Vengai* and *Teak*.

The mahogany of both species planted in block IV were cleared of creepers and other interference, and have a healthy appearance, ranging from 3 feet to 14 feet in height. The compartments 1, 2 and 3 of block II which have been planted with *Teak*, *Vengai* and *Berrya ammonilla* were also cleared, and the growth looks healthy.

The nurseries at Lovedale, Sim's Park and Kullar have been carefully tended during the year and are full of plants. That at Tippacadu is also maintained. That at Cairn Hill was abandoned. The principal plants grown at Lovedale were *Cupressus macrocarpa*, *Frenela* and *Casuarina suberosa*, besides several of the better classes of indigenous trees.

Seeds of *Eucalyptus*, *amygdalina*, *gunnii*, *botryoides*, *leucoxylon* and *ganiocaly* were sown and germinated well. A further reference is given under "Experiment" in appendix A.

(*g*) Works of Improvement.

31. Among such works may be mentioned—

Kistna.—Creeper cutting over 250 acres in Kondavid and experiment in cutting back badly-grown *Hardwickia*, *Chloroxylon*, and *Anogeissus*.

Nilgiris.—A great amount of pure improvement work was done in this district; creepers were cut and undergrowth cleared over an extent of 290 acres in twelve separate reserves at a cost of Rs. 1,417.

The returns from the sale, by head-loads chiefly, of the result of these clearings was Rs. 742. The result of the operations is undoubtedly most favorable to reproduction.

Improvement Thinnings.

32. Bamboos were thinned in block IV, Kullar, in five compartments; and in block II in two compartments over an area of 125 acres, at a cost of Rs. 380. The object of these operations was chiefly to relieve the mahogany plants.

In the Mudumalai leased forest, in block I, compartment 3, 67 acres were thinned at a cost of Rs. 496. The offer for the poles extracted is only Rs. 100, as they are for the most part crooked and valueless where they are, for small wood has little or no value near these large forest areas.

A further area of 98 acres was thinned in compartment 4 of the same block for Rs. 786. The materials sold for Rs. 715.

In the Ootacamund Range 16 acres of wattle were thinned out in Snowdon, at a cost of Rs. 72; the materials realised Rs. 236. Standards were left at 8 feet apart. Dead wood was not sold this year to any extent from the Moyar reserve; but in the Bennè reserve 4,000 cubic feet of heads and butts of trees remaining after departmental fellings were sold for Rs. 1,200.

Fencing.

33. A barbed wire fence 550 yards long, with three strands, was put up in Sim's Park, Coonoor, along the supply channel at a cost of Rs. 145, the main object being to secure the nursery.

A trench, 2,486 yards long (with stone walls in rocky places), was dug in the Muthanad reserve at a cost of Rs. 340, and another to the length of 1,551 yards in the Kengodu reserve cost Rs. 185.

A ditch one mile in length was dug round the planted portion of Rallia at a cost of Rs. 181.

All existing fences were repaired.

Communications and Buildings.

34. The total expenditure as compared with that of last year was—

	1888-89.	1889-90.
	Rs.	Rs.
Roads	9,234	9,752
Buildings	14,457	13,422
Other works	302	826
Total ...	23,993	24,000

It can hardly be said that the expenditure on these items was sufficient for the due development of the forests, but the hands of the establishment were tied in so many districts by settlement work that more attention to these heads could not be paid.

Roads.

35. The works in the various districts were—

Ganjam.—Roads begun both in East and West Goomsur. A road from Tarsingi to join the Tilsingi-Chondorgiri road was two-thirds completed, and a road from Niktiapalli to Ramba was half finished. Some work was done on the Kullada-Tilsingi road, and the Famine Relief Fund then took over the road, but did not complete it, and the work subsequently was very considerably damaged by the heavy monsoon and cyclone:—

	Rs.
Spent on construction	987
Do. repairs	458
Total ...	1,445

Godávari.—In the Upper taluks the following work was done:—

	Miles.	Rs.
Extension of Kunnavaram-Tatlanka road	2	237
Do. of Murmur do.	1	73
Do. of Jiriguppa-Ramdeopet road	2½	156
Do. of Kenraspett-Bhundargudem road	2	315
Total ...		781

In the Lower taluks—

	Miles.	Rs.
Levelling and ditching the Tirumalayapalem-Sudikonda road.	3½	211
Do. do. the Pidthamamidi-Timmapuram „	6	155
Marking of Mulagalampalli-Puchikapad road	10	62
Total ...		428
Total expenditure ...		1,209

Kistna.

	Miles.	Rs.
Repairs to Komatigunta road	14	410
Constructing 1st section of Venkatayapalem road	20	570
Repairs to other roads		45
Spent on construction		570
Do. repairs		455
Total ...		1,025

Cuddapah.—The work done was—

	Rs.
20 chains Lankamalai road	55
1½ miles bridlepath along Chengalati pass	170
Ragimanipenta road	383
Road to Reddipalle plantation	60
Pathasallamgadu road extension	210
2½ miles Yerrapenta road	200
Balapalle-Váyalpád road extension	171
	1,249
Repairs ...	386
Total ...	1,635

Kurnool.

	Miles.	Rs.
Construction of road in Nandikótkur range	4	1,021
125 yards of demarcation line in Nandyál cleared of stumps.	...	204
Cart-track to Mantrala house, 904 yards		200
Digamitta road		98
Foot-paths		72
Total ...		1,595

Bellary.—The work done was—

3½ miles of a ridge road (Gamble's road) were made in Rámandrug, work being commenced simultaneously in 3 sections.

4½ miles of bridle-road were made in the North-east reserve and Donemalai. Part of the expenditure was erroneously credited to Fire lines.

	Rs.
Construction	771
Repairs	41
Total ...	812

Nilgiris.—The following was the work—

1½ miles cart-road to Rallia.
2 „ Inspection path in Northern Hay.
2 „ „ „ „ the Benne Forest.
6 furlongs bridle-road in Kullar.
6½ „ Cully road

	Rs.
Construction	1,259
Repairs	765
Total ...	2,024

Buildings.

36. *Ganjam.*—The following buildings are now on the books in this district, considerable attention having been paid to this head :—

Rest-houses.

	Value Rs.	Rs.
1. Russellkonda	1,500	
2. Berhampore	1,200	
3. Gullery	600	
4. Hatiguda	302	
5. Rambha	453	
6. Tilsingi	542	
7. Chandorgiri	836	
		5,433

Range-houses.

	Value.	
	Rs.	Rs.
1. Gayagonda	690	
2. Mojjagodo	500	
3. Suradá	400	
		1,590
16 Guards' and tannah huts		953

Besides these, houses at Tarsingi and Bonta are in course of construction. Hatiguda is still unfinished. The value entered does not represent the real value in most cases, for the figures shew the cost to the department exclusive of timber.

During the year the expenditure was—

	Rs.
Construction	1,406
Repairs	400
Pay of watchers	352
Total ..	2,158

Godávari.—The houses on the books are—

Rest-houses.

	Value	
	Rs.	
1. Rékapalle	700	
2. Murmur	800	
3. Jiriguppa	600	
		2,100

Range-houses.

	Rs.
1. Marrigudem	350
8. Depôt and office sheds	236
10. Guards' and tannah huts	97

There are besides under construction and nearly completed—

Rest-houses.

4. Singavaram.
5. Chintur.
6. Bodigudem.

During the year the expenditure was Rs. 1,954.

Kistna.—The houses on the books are—

Rest-houses.

	Value.	
	Rs.	Rs.
1. Kondapalli	1,000	
2. Kondavid	1,010	
3. Remidicherla	1,000	
		3,010
10 Guards' and tannah huts		266

During the year the expenditure was Rs. 2,108.

Nellore.—The buildings are—

	Rs.
1. Rest-house at Udayagiri	1,150

During the year the expenditure was Rs. 574.

Cuddapah.—The buildings on the books are—

Rest-houses.

	Value.	
	Rs.	Rs.
1. Kódúr	2,750	
2. Sanipaya	2,000	
3. Mogilipenta	950	
4. Balapalle	540	
5. Horsleykonda	4,000	
6. Vontimitta (Public Works Bungalow handed over to the Forest Department)	1,000	
		11,240

Range-houses.

	Value. Rs.	Rs.
1. Ráyachóti	450	
2. Sidhout	530	
3. Rájampet	370	
4. Badvél	570	
5. Kódúr	1,000	
		2,920

Depôt sheds.

1. Kurapalli	250	
2 Kódúr	150	
3. Polisettivandlapalle	20	
4. Vontimitta	250	
		670
81 Guards' and tannah huts		1,463

Among the work done for the year was the completion of the office building at Horsleykonda, with the exception of doors and windows. The building was purchased for Rs. 4,000 from Forest funds and considerable expense has been made since on repairs and out-buildings. It has now been decided by Government that the District Forest-officer is to spend only 30 days in the year at Horsleykonda, and that it is to be regarded as a general sanitarium. It is not known whether the cost incurred by the Forest Department is to be reimbursed, and, if so, from what source. The total expenditure during the year was Rs. 1,653.

Kurnool.—The buildings on the books are—

	Rs.
1. Head-quarters bungalow at Nandyál	11,000

Rest-houses.	Value. Rs.	
1. Rollapenta	1,200	
2. Bainuti	1,200	
3. Mantrala	800	
4. Buswapur (bought from Railway)	1,500	
		4,700
Range-houses.		
1. Dornal	400	
2. Kistnamchettipalle	150	
		550
31 Guards' and tannah huts		2,084

The building at Mantrala is still unfinished, having taken a very excessive time to complete. The total expenditure during the year was Rs. 2,544.

Bellary.—The buildings are—

	Rs.
1 Rest-house at Donemalai	500
1 Range-house at Sandúr, unfinished	561
3 Guards' and tannah huts	35

During the year the expenditure was Rs. 596.

Anantapur.—The buildings are—

	Rs.
1 Head-quarters bungalow at Anantapur	6,991
Rest-houses	
1 Konapanainapalle	800
1 Gollah (a Local Fund bungalow handed over to the Forest Department)	5,000
15 Guards' and tannah huts	79

During the year the expenditure was Rs. 469.

Nilgiris.—The houses are—

Rest-houses.	Value. Rs.	Rs.
1. Kullar	1,500	
2. Rallia	360	
		1,860
5 Range-houses	970	
43 Guards' and tannah huts	2,415	
		5,245

A rest-house at Benne is under construction, and a range-house at Mudumalai.

During the year the expenditure on various smaller buildings and on repairs was Rs. 1,350.

37. *Tramways.*—The following statement has been specially prepared to shew the working of this tramway :—

STATEMENT shewing the working of Tramway in Nellore District.

Names of localities where tramway planted.	Length of line of Tramway planted.	Quantity of wood carried in					Total quantity (columns 3 to 7).
		1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	
1	2	3	4	5	6	7	8
	M F. Y						
Tammenapatam ..	1 0 0	1,891	164	..	..	249	2,304
Kothapatam	2 4 0	..	1,872	..	2,066	255	4,193
Sriharikota (Penubakam).	2 5 90	..	..	..	..	137	137
Average ..	6 1 90	1,891	2,036	..	2,066	641	6,634

Names of localities where tramway planted.	Total quantity in tons for 1 mile (columns 2 × 8).	Actual cost of carrying the above by tramway.	Interest at 4 per cent. per annum and allowance for deterioration of plant at 1 per cent per annum on the original cost of the tramway for 5 years.	Total cost by tramway (columns 10 and 11).	Probable cost of carrying the same by common carts.	Average cost per ton per mile by tramway.	Average cost per ton per mile by common carts.
9	10	11	12	13	14	15	
		Rs.	Rs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.
Tammenapatam ..	2,304	434	3,894	5,750	11,548	0 7 2	0 14 5
Kothapatam	10,483	1,422					
Sriharikóta (Penubakam).	367	186	* ..	† 186	79	0 8 1	0 3 5
Average ..	13,154	2,042	3,894	5,936	11,627	0 7 3	0 14 2

* Nothing has been entered in this column, as the tramway is quite new and has not deteriorated in any way.

	Rs. A. P.		Rs. A. P.
† Clearing jungle	35 11 0	Storing charges	10 4 0
Fixing sleepers	17 3 9	Constructing huts for tramway ..	15 3 6
Earthwork	2 13 4	Sundry charges for repairs, &c. ..	6 3 6
Planting pegs along the sleepers ..	4 5 4	Actual cost of wood carried ..	25 13 11
Oil for wheels	7 14 0	Total ..	186 7 0
Boat-hire for carrying rails from Madras	54 10 8		
Boat-hire for carrying wagons from Kanupur.	6 4 0		

The figures shew a very great saving by means of the tramway. In fact Nellore is a district where a tramway must pay, and largely by comparison with carts, for in the first place the ground is level, and the line therefore easily laid; in the next place the soil is sandy, so that the cost of carting is abnormally expensive, enhancing the difference obtained by a comparison with the cost of transport by tramway. It is easy enough to push the tramway so as to render it workable. In the third place there is a ready market in Madras.

38. *Boats.*—There were no boats bought or constructed during the year, but three small boats for the use of subordinates are under construction.

39. *Elephants.*—As last year; and reported in good health.

CHAPTER V.

YIELD AND WORKING.

40. The following is the outturn statement for the year (as called for by Government in G.O., No. 153, of 5th March 1889) compared with that of the previous year. Districtwar statements for collection by Government agency and removal by purchasers are given in the respective abstracts of forms 69 and 72.

ABSTRACT K.—Comparative yield.

Heads.	TIMBER IN CUBIC FEET, INCLUDING SANDAL-WOOD.		FUEL IN CUBIC FEET.		BAMBOOS IN NUMBER.		MINOR PRODUCE GROSS VALUE IN RUPEES.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
By Government agency.	241,203	* 121,225½	868,460	† 851,983	78,268	‡ 108,386	8,728	12,566
By purchasers, including drift and confiscated ..	1,498,554	1,547,912	6,257,324	4,459,179	4,679,953	7,056,288	1,16,185	1,33,950
Free grants	35,631	15,630	14,818	230	130,050	13,989	..	400
Total ..	1,795,388	1,684,767½	7,140,602	5,311,392	4,888,271	7,178,663	1,24,913	1,46,916
Difference in 1889-90 as compared with 1888-89.	— 110,620½		— 1,829,210		+ 2,290,392		+ 22,003	

* Includes 504½ cubic feet, being excess found on remeasurement of timber collected and taken to depôt in previous years.
† Do. 276 do. do. do. of fuel do. do.
‡ Do. 20 number do. in the number collected and taken to depôt in previous years.

There was a decrease during the year under report in the total yield compared with the totals of the previous year, of 6 per cent. under timber and 25 per cent. under fuel, and an increase of 47 per cent. under bamboos and 13 per cent. under minor produce. There was a considerable falling off in the revenue realized from both timber and firewood removed by purchasers.

The receipts, however, for bamboos during the two years under both I and II are almost identical; and it is clear that there is some error in the numbers. This error seems to be in the returns for Kurnool last year, where 11,000 odd cart-loads of bamboos were entered as 11,000 bamboos.

SECTION 1.—DEPARTMENTAL OPERATIONS (FORMS 68, 69, 70, 71 AND 73-A).

41. The following gives a comparison of the trees felled departmentally in two years :—

ABSTRACT L.—Trees felled and converted (see Form 68).

Opening balance, 1888-89.	Felled, 1888-89.	Felled, 1889-90.	Converted, 1888-89.	Converted, 1889-90.	Balance carried forward.
395	19,023	26,567	18,931	26,419	635

Although the number of trees was greater the cubical contents were considerably less than in the previous year; the number of large trees felled in Ganjam being fewer during the year, and the number of smaller trees in Kistna and Nílgiris greater.

42. The following abstract compares the produce collected and disposed of for two years :—

ABSTRACT M.—Produce collected and disposed of (see Forms 69, 70, 71 and 73-A).

—	PRODUCE COLLECTED.						
	During 1888-89.			Stock at the beginning of 1889-90.	During 1889-90.		
	Quantity.	Cost.	Average.	Quantity.	Quantity.	Cost.	Average.
1	2	3	4	5	6	7	8
		Rs.	Rs. A. P.			Rs.	Rs. A. P.
Timber .. .. C. ft.	260,441	33,277	0 2 0	206,974	120,442½	21,857	0 2 11
Firewood .. .. ,,	808,460	38,524	0 0 9	748,983	851,983	37,404	0 0 8
Bamboos .. .. No.	78,268	549	0 0 1	17,791	108,386	897	0 0 2
Sandalwood .. C. ft.	762	1,830	2 6 5	..	783	1,856	2 5 11
Minor produce .. Mds.	8,538	4,535	0 8 6	5,992½	25,306	5,643	0 3 7
Total ..	..	78,715	..	..	..	67,657	..

ABSTRACT M.—Produce collected and disposed of (see Forms 69, 70, 71 and 73-A)—*cont.*

	Produce disposed of					
	During 1888-89			During 1889-90.		
	Quantity.	Sales.	Average.	Quantity.	Disposals.	Average.
	9	10	11	12	13	14
		Rs	Rs A. P		Rs	Rs A. P
Timber .. .. C ft	55,677	20,717	0 5 11	148,322	43,599	0 4 9
Firewood .. .. ,,	661,111	61,812	0 1 6	675,347	59,474	0 1 3
Bamboos .. .. No.	58,187	1,615	0 0 5	112,686	2,745	0 0 5
Sandalwood .. .. C ft	796½	6,965	0 8 11	740	5,616	7 9 5
Minor produce .. Mds.	8,792	8,728	0 15 11	26,434½	12,566	0 7 7
Total ..	..	99,837	..	..	1,24,000	..

Out of the amount of Rs. 1,24,500 only Rs 1,13,896 was realized during the year. The net surplus under this section was therefore Rs. 46,239 and there were increased returns at a lower actual expenditure, but the value of stock in depôts was diminished as shown below.

43. There was a considerable discrepancy between actuals and the budget figures as will be seen by the following :—

	Receipts Rs.	Expenditure. Rs.	Surplus. Rs.
As per revised budget	1,48,950	71,950	77 000
Actuals as per form No 64	1,13,896	67,657	46,239
Difference ...	— 35,054	— 4,293	— 30,761

Against this however there is a balance of some Rs. 10,000 due for wood supplied but not paid for during the year, chiefly from Ganjam. The price of casuarina wood in Nellore fell lower during the year than in any previous year.

In the Nílgiris the value of wood in the plantations also fell very considerably for want of a sufficient market, and there were short sales of timber from Mudumalai and Benne, because of the failure of a firm who had contracted for large purchases.

In Cuddapah the price of red sanders also remained abnormally low, and the market was dull.

44. The value of stock in depôts was diminished by Rs. 20,712 as shown below :—

Districts.	On hand at commencement	On hand at close	Difference
	Rs.	Rs	Rs
Ganjam	14,374	1,971	— 12,403
Godávari	..	456	+ 456
Nellore	11,847	2,837	— 9,010
Cuddapah	23,997	24,552	+ 555
Bellary	42	190	+ 148
Anantapur	380	3	— 377
Nílgiris	2,547	2,466	— 81
Total ..	53,187	32,475	— 20,712

The chief stock is of sal sleepers in Ganjam, fuel in the Nílgiris and Nellore, and red sanders in Cuddapah.

SECTION 2.—REMOVALS BY PURCHASERS (FORM NO. 72-A).

45. The following abstract shews the removals by purchasers under permits or licenses for two years :—

ABSTRACT N.—Produce removed by permit-holders (Form No. 72-A).

Produce	During 1888-89.			During 1889-90		
	Quantity	Amount of sales	Average.	Quantity	Amount of sales.	Average.
		Rs	Rs A P.		Rs	Rs. A. P
Timber .. .. C ft	1,442,261	1,18,413	0 1 4	1,457,016	1,25,594	0 1 5
Firewood .. .. ,,	6,249,532	1,02,548	0 0 3	4,429,766	82,292	0 0 4
Bamboos .. No	4,672,432	52,590	0 0 2	7,038,404	49,315	0 0 1
Grass and grazing .. Mds	151 572	70,454	0 8 5	158,809	78,327	0 7 11
Minor produce . ,,	3,000,325	1,46,096	0 0 9	1,794,000	1,33,835	0 1 2
Total ..	..	5,00,001	..	..	4,69,363	..

The amount actually realized during the year, including outstandings, was Rs. 4,70,366. The net decrease during the current year was therefore Rs. 29,635.

The decrease in Ganjam may be explained by the famine and abnormal rain afterwards.

The decrease in Kistna was due to a short demand for babul wood, and to slightly lower rates offered for grazing leases.

In Cuddapah there was a considerable decrease under timber and fuel, chiefly because many of the blocks near the railway lines have been worked out, and an attempt was made to regulate the supply of fuel to the railway, which had heretofore been hardly checked.

In Kurnool the very large decrease was due to less demand from the railway.

In Bellary the decrease was apparent rather than real, for a sum of Rs. 5,000 for quarries on unreserved land was wrongly credited to forests last year.

In Anantapur the decrease is explained by a smaller demand for tangedu since the price has been raised.

There were, however, increased receipts in Godávari under timber and fuel taken together, though there was a decrease under timber alone, because of increased precautions being taken in issuing licenses; and there was an increase under minor produce.

In Nellore there was a slight increase under timber and firewood and grazing, and a considerable increase under minor produce.

In Cuddapah there was a considerable increase also under minor produce, owing to fairer prices being received for amroy sales, not in consequence of any additional drain on the forests.

46. The confiscations for two years were as follows:—

ABSTRACT O.—Confiscation (see Form No. 72-B).

	During 1888-89.			During 1889-90.		
	Quantity.	Amount realized.	Average.	Quantity.	Amount realized.	Average.
		Rs.	Rs. A. P.		Rs.	Rs. A. P.
Timber .. .. C. ft.	56,293	11,177	18 1 3	90,896	12,087	13 4 9
Firewood .. .. ,,	2,592	343	3 9 3	29,413	745	2 8 6
Bamboos .. .. No.	7,521	86	1 2 4	17,884	171	0 1 6
Minor produce in maunds of 25 lb. each	1,186	.926	* 77 15 11	7,497	115	0 8 6
Total ..	..	12,531	..	..	13,118	..

* This large average is due to the omission of quantity in some districts in 1888-89.

SECTION 3.—FREE GRANTS OF FOREST PRODUCE.

47. The following shews the free grants made by Collectors and District Forest-officers and their value for two years:—

ABSTRACT P.—Free grants.

Districts.	Timber.	Firewood.	Bamboos.	Minor produce in maunds of 25 lb. each..	Money value.
	C. FT.	C. FT.	NO.	MDS.	RS.
Ganjam	..	..	..	..	..
Vizagapatam	80	30	6,144	..	161
Godávari	1,440	..	..	..	154
Kistna	120	200	..	..	33
Nellore	11,350	..	..	4,020	1,215
Cuddapah	400	..	1,725	..	39
Kurnool	1,320	..	6,120	..	146
Bellary	..	..	..	1,800	320
Anantapur	..	..	..	..	..
Nilgiris	920	..	..	..	863
Total ..	15,630	230	13,989	5,820	2,931
Free grants of last year ..	35,631	14,818	130,050	..	7,986

These statistics give the recorded free grants, but give no idea of the vast amount of forest produce consumed, chiefly from unreserved lands, by unrecorded privileges.

CHAPTER VI.

Financial Results.

48. The revenue and expenditure is given in form No. 64.

The following abstract gives the cash results for five years:—

Abstract Q.—Cash results from 1885-86.

—	For 1885-86.	For 1886-87.	For 1887-88.	For 1888-89.	For 1889-90.	Revised estimate for 1889-90.	The year under report compared with the previous year.	The year under report compared with the revised estimate.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Revenue	5,46,282	5,52,248	5,64,723	6,16,920	6,06,610	6,40,000	— 10,310	— 33,390
Expenditure.								
A. "Conservancy and works"	1,88,930	2,20,443	2,18,009	2,54,298	2,18,513	2,46,680	— 35,785	— 28,167
B. "Establishments" ..	2,12,887	2,14,523	2,35,785	2,20,244	2,39,617	2,53,320	+ 19,573	— 13,503
Total Expenditure ..	4,01,817	4,34,966	4,53,794	4,74,542	4,58,330	5,00,000	— 16,212	— 41,670
Net results ..	1,44,465	1,17,282	1,10,929	1,42,378	1,48,280	1,40,000	+ 5,902	+ 8,280

The net surplus is greater although the gross revenue was lower during the year.

Until settlement is finished and the establishment is strengthened it is impossible to forsee accurately the capabilities of the forest; but the results will be better than those of the year under report.

The increase under establishment was owing to the higher pay of the Conservator as compared with that of the Acting Conservator last year, to promotion of superior officers, and to higher travelling allowance on the whole under the system of daily as against fixed allowances.

49. Form No. 67 gives the distribution of revenue and expenditure under the three heads of "Departmental timber works," "other revenue," and "improvement of forests." The ratios adopted are the same as those of last year, viz., Vizagapatam 1, Bellary 2 and the rest 3 twenty-fifths.

The deficit under "timber operations" would have been a surplus had the value of Ganjam sleepers been paid, and had not the rate for Cuddapah red sanders not fallen from 17 or 18 rupees a ton to 10 or 13.

50. Form 73 (*a*) and 73 (*b*) shew the comparison between the value of timber and plant respectively at the beginning and the end of the year. In order to compare the surplus to the credit of the department this year with that of last year, the same form is adopted, viz.:—

	Rs.
Net revenue	1,48,280
Outstanding revenue	13,011
Difference of value of plant, 73 (*b*)	16,751
Total ...	1,78,042
Deduct difference of value of timber, 73 (*a*) ...	20,712
Surplus to credit ...	1,57,330

The surplus for the year 1888-89 calculated in the same way was Rs. 2,03,713, leaving a comparative balance against the year under report of Rs. 46,383.

CHAPTER VII.

General Remarks.

51. The Acting Conservator can find definite opinions of Mr. Gamble about only a few of the officers. In his inspection report on Cuddapah, Mr. Gamble thus records his opinion of the work of Mr. Lodge: "I have only to express my satisfaction with the excellent work done by Mr. Lodge in a district which ought really to be the charge of about four officers of his standing."

In his report on Mr. Battie's work, Mr. Gamble says: "I can now end by expressing my satisfaction at the good state in which I found the forest work in Godávari. The great point about it is that what has been done has been done thoroughly: there have been none of the half and half works which one so frequently finds, and no excuses for not carrying out orders."

In his report on Mr. A. W. Lushington's work, Mr. Gamble says: "I regret that I cannot express myself as fully pleased with the conditions of forest work in Ganjam. There is a want of method and system, and an absence of attention to the rules and orders of authority; but the District Forest-officer works hard, is energetic and enthusiastic himself, and in some respects has done excellent work."

In his report on Kistna, Mr. Gamble writes: "Mr. Alwar Chetti, B.A., Sub-Assistant Conservator, is anxious to work hard. His office was in fair order, and his settlement and demarcation work well done; but in the field, work is undoubtedly a little slack. I am afraid that this is due to want of experience." In fact this officer has had no departmental training, for he was specially appointed for training at Dehra Dun; and as the department was short-handed, he was appointed to the charge of a district on his return.

There are no definite statements about the other officers.

52. The following remarks are gathered from the district reports:—

Ganjam.—Mr. Newman, Ranger, is said to have done well, and Mr. McLaughlin, Ranger, fairly. The temporary Forester, Mir Rashid-ud-din, is commended. The year was very unhealthy. There was famine at one period and excessive rain at another.

Visagapatam.—The Pálkonda Ranger, Nagarazu, is said to have worked well.

Godávari.—The work of Mr. Stafford, Sub-Assistant Conservator, is said to have been unsatisfactory, and he was temporarily reduced in consequence. He has been transferred to Bellary.

Ranger A. Eggia Sastry is very highly commended, and the work of Ranger Viswanatham Pantulu is commended.

The year was very unhealthy, and the deaths are reported of two Foresters, two Forest Guards, and one Tannahdar.

The rainfall at Wuddágudem was 81 inches, the heaviest rainfall being registered on the 18th September when 12·5 inches fell.

Kistna.—The work of all the Range officers is said to have been good, except in the case of Mr. Tweedie and Forester S. John.

Nellore.—The work of Rangers Venkatesa Mudali, T. Shunmuga Mudali, and Balaji Sing is commended, and also that of Head Guard Sanker Sing, who held charge of a range.

Rainfall 30 inches, but very unequally distributed. A storm-wave destroyed almost all the new planting at Dugarázpatnam.

Cuddapah.—The work of Mr. Gaudoin is specially commended. The year was very unhealthy; a Forest Guard, a Tannahdar and a Depôt peon died.

Kurnool.—One Ranger was dismissed during the year. The year was unhealthy; two Forest Guards died at Márkápur and Cumbum.

Bellary.—The work of Ranger Kodundarama Mudali was unsatisfactory. There was no serious illness.

Anantapur.—The work of Eggia Narayana Sastry is commended, also of Forester Ramasawmy Iyah. The work of Forester Srinivas Hebbar was very unsatisfactory.

Health generally fair.

Nilgiris.—The work of Rangers P. Ramalingam Pillay, Sundram Pillay and C. Venkataramaniah is specially commended, and also of Foresters Seager, Allen and Raghaviah.

There was much illness as usual in Sígúr, Mudumalai and Kullar, and the establishment and coolies suffered much. One Forester died during the year.

53. *Service Registers*—have been regularly posted in all districts.

54. *Forest School.*—Only one Ranger, Kalyanarama Iyer, was sent during the year from Anantapur district. Forester Rama Row returned with a Ranger's certificate, and was promoted to a post of Acting Ranger.

APPENDIX A.

EXPERIMENTS AND EXOTICS.

Arabian Dates.

In *Godávari* there are some 100 date trees in various reserves 1 to 2 feet high.

In *Kistna* the plants in the Weld plantation grow fairly, but no new work was attempted. The Conservator during the year decided that these experiments should be carried on on a larger scale if at all; and preparations are being made to have plantations of from 80 to 100 acres in some districts.

In *Nellore* there are some 700 trees at Śrîharikóta thriving fairly. An experiment was made at Dugarázpatnam, but was discontinued owing to the brackish water. An experiment was then made at Allipuram casuarina plantation, which is part of the bed of the Pennér: 6,000 pits were sown with three seeds in each, but the experiment was a total failure, it is supposed because the seed which had been procured in the local market was damaged.

In *Cuddapah* there are 130 Egyptian dates out of 200 seeds sown, and out of 2,220 Persian date seeds 680 died, and the rest are doing well in baskets.

In the *Nilgiris* a small experiment has been commenced with Cabul dates: out of 46 seeds 36 germinated and are doing well at Kullar.

The dates at Moyar, from seed got from bazaar fruit, grow slowly, being much attacked by hares.

Mahogany.

The mahogany plantation at Kullar, at the foot of the Coonoor Ghât, is still thriving well. The trees are planted at intervals without felling the intervening natural forest. Some of the trees are now 17 feet high (planted in 1885-86).

The seedlings of the variety *Swietenia macrophylla* planted last year have been all basketted, and will be planted near Sigúr.

The *Swietenia macrophylla* planted last year at Kullar are all healthy, and out of 9,000 seeds received from Calcutta 8,325 seedlings came up during the year, and have been planted in the Kullar reserve.

The Mahogany has failed at Nellore and 34 trees in Cuddapah, at Arimanibanda, are not flourishing.

Eucalyptus.

Besides the ordinary plantations of blue gum and red gum on the Nilgiris, experiments were made last year with some seed sent by the Board. Most of these experiments failed, but it is reported from Godávari that 250 seedlings (chiefly "robusta" it is believed) are doing well.

Of the 47 trees in Cuddapah, planted out at Mogilipenta, six died and the rest are healthy.

Experiments in the Nilgiris have been made with various species.

In Sim's Park were planted 30 *Eucalyptus siderofolia*, 173 *Eucalyptus corymbosa*, and are doing well.

In the nursery are—

18 *Eucalyptus citriodora*,	20 *Eucalyptus regnano*,	15 *Eucalyptus stricta*,
30 „ *microtheca*,	25 „ *Stuartiana*,	28 „ *polyanthema*,

and in Lovedale there are seedlings of *Eucalyptus amygdalina*, *Gunnii*, *botryoides*, *leucoxylon*, and *ganiocaly*.

Experiments various.

In the *Nilgiris* large experiments have been made with *Frenela rhomboidea*, *Cupressus macrocarpa*, *Casuarina suberosa*.

In Sim's Park the following have been planted:—

178 *Syncarpia laurifolia*.
35 Olive.
6 *Dendrocalamus Hamiltonii*.
6 „ *Sikkimensis*.

The following seeds were sown and are growing in the nursery:—

500 *Acacia pycnantha*.	*Pinus Laricio Austriaca*.	*Picea excelsa*.
„ *brachij botriya*.	„ *pinea*.	*Abies Pinsapo*.
Boronia megastigma.	„ *Halepensis*.	

A variety of other Conifers have been sown, but the seeds have not yet germinated. Some of these species may be found to grow well and rapidly on the Nilgiris. Experiments are also succeeding with Red sanders, *Caryota urens*, *Dipterocarpus alatus* and others.

Besides this some 4,000 Vengai seedlings and 4,500 Teak seedlings were planted in the Kullar reserve, the object being by degrees to transform this forest into a forest of valuable trees, such as Teak, Vengai and Mahogany.

In other districts the experiments are not carried on so systematically. Some experiments have been made in Cuddapah with *Corypha elata*, Teak, Carob (a few seedlings) and *Erythroxylon coca*, of which 15 plants are thriving at Balapalle.

In Nellore experiments with Sissu, Ironwood, Mahogany, Caryota were more or less failures, but an experiment in growing bamboos seems successful.

APPENDIX B.

STATEMENT shewing the cost and yield up to 31st March 1890 of the casuarina plantations in Nellore and Gúdúr taluks.

Plantation.	Compartment No.	Area.	Year of planting.	Total expenditure up to 31st March 1890.	Cost per acre.	Approximate return up to 31st March 1889.		Yield during 1889-90.					Approximate return during 1889-90.		Grand Total.	
						Yield up to 31st March 1889.	Amount.	Section felling.	Deadwood cutting.	Clean felling.			Rate.	Amount.	Total tons—7 and 13.	Total amounts—8 and 15.
								Tons.	Tons.	Acres.	Tons.	Total.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				Rs.	Rs.		Rs.						Rs.	Rs.		Rs.
	1 & Extra inter-planted.	45	1873 / 1874	10,132	225	1,835	10,715	..	3	..	..	3	4	12	1,838	10,727
	2	26	1874	6,908	276	590	3,539	..	..	..	..	..	..	..	590	3,539
	3	30	1875	6,449	215	754	4,524	..	..	..	..	..	..	..	754	4,524
	4	59	1880	3,397	57	549	3,289	330	17	..	..	347	..	1,388	896	4,677
	5	104	1881	4,416	42	858	4,968	32	24	..	..	56	..	224	914	5,192
Dugarájapatam ..	1882	4	1882	..	..	33	194	..	..	..	..	..	..	..	33	194
	1883	73	1883	3,585	49	29	160	..	67	..	..	67	..	268	96	428
	1884	60	1884	2,583	43	9	54	..	..	..	..	..	..	..	9	54
	1885	30	1885	1,531	51	..	..	..	..	..	..	..	..	..	..	..
	1886	60	1886	425	7	..	..	..	..	..	..	..	..	..	..	..
	1887	100	1887	1,012	10	..	..	..	..	..	..	..	..	..	..	..
	1888	80	1888	1,520	19	..	..	..	..	..	..	..	..	..	..	..
	1889	70	1889	210	3	..	..	..	..	..	..	..	..	..	..	..
Village tope, casuarina	1883	4	1883	132	33	..	..	..	..	4	43	43	..	172	43	172
Ebrow's tope ..	Resumed by Government under Tope Rules.					504	3,024	..	..	..	..	..	..	..	504	3,024
Salt tope	..	4	..	..	..	35	210	..	..	..	..	..	..	..	35	210
6 Islands in backwater	..	7	1880-83	..	..	6	30	..	..	..	..	..	..	..	6	30
	1 Interplanted.	24	1873 / 1874	6,005	250	1,154	6,924	..	..	..	..	..	..	..	1,154	6,924
	2	24	1874	6,536	272	884	5,304	..	..	..	..	..	..	..	884	5,304
	3	32	1875	6,170	193	1,496	8,976	..	..	..	..	..	..	..	1,496	8,976
	4	40	1880	3,082	77	243	1,413	..	30	..	..	30	..	120	278	1,533
	5	112	1881	4,408	39	1,073	6,321	..	13	..	..	13	..	52	1,086	6,373
	1882	16	1882	..	..	..	..	..	..	..	..	..	..	..	..	..
Kottapatam ..	1883	22	1883	1,046	48	33	166	..	7	..	..	7	..	28	40	194
	1884	37	1884	1,591	43	..	..	..	..	..	..	..	..	..	..	..
	1885	30	1885	986	33	..	..	..	..	..	..	..	..	..	..	..
	1886	25	1886	222	9	..	..	..	..	..	..	..	..	..	..	..
	1887	50	1887	1,491	30	..	..	..	..	..	..	..	..	..	..	..
	1888	50	1888	934	19	..	..	..	..	..	..	..	..	..	..	..
	1889	30	1889	208	7	..	..	..	..	..	..	..	..	..	..	..
Chattram tope ..	Resumed by Government under Tope Rules.					120	720	..	..	..	..	..	..	..	120	720
Pumangi do. ..						169	1,014	..	..	..	..	..	..	..	169	1,014
Royalpalem tope ..	..	..	..	..	..	13	65	..	..	..	..	..	..	..	13	65
	1 Interplanted.	41	1873 / 1874	12,143	296	769	4,614	..	..	..	..	..	..	..	769	4,614
	2	59	1874	9,576	162	1,008	6,048	..	..	..	..	..	..	..	1,008	6,048
	3	29	1875	7,878	272	587	3,522	..	..	..	..	..	..	..	587	3,522
	4	64	1880	3,808	59	140	840	223	14	..	..	237	..	948	377	1,788
Tanminapatam ..	5	139	1881	5,779	42	126	756	..	29	..	..	29	..	116	155	872
	1882	81	1882	84	1	182	1,092	..	..	..	..	..	..	..	182	1,092
	1883	68	1883	2,392	35	1	6	..	..	..	..	..	..	..	1	6
	1884	30	1884	1,267	42	..	..	..	..	..	..	..	..	..	..	..
	1885	10	1885	381	38	..	..	..	..	..	..	..	..	..	..	..
Around wells of No. 1	1886	4	1886	242	60	..	..	..	..	..	..	..	..	..	..	..
Resumed by Government under ..	...	4	Topo Rules.		..	118	708	..	..	..	..	..	..	..	118	708
Around wells of Nos. 2 and 3 ..	1887	20	1887	1,046	52	..	..	..	..	..	..	..	..	..	..	..
Around wells of Nos. 2 and 3 ..	1888	20	1888	533	26	..	..	..	..	..	..	..	..	..	..	..

Statement shewing the cost and yield up to 31st March 1890 of the casuarina plantations in Nellore and Gúdúr taluks—*cont.*

Plantation.	Compartment No.	Area.	Year of planting.	Total expenditure up to 31st March 1890.	Cost per acre.	Approximate return up to 31st March 1889.		Yield during 1889-90.					Approximate return during 1889-90.		Grand Total.	
						Yield up to 31st March 1889.	Amount.	Section felling.	Dead-wood cutting.	Clean felling.			Rate.	Amount.	Total tons—7 and 12.	Total amount—8 and 15.
								Tons.	Tons.	Area.	Tons.	Total.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				Rs.	Rs.		Rs.						Rs.	Rs.		Rs.
Utukur	1	32	1875	7,527	235	94	470	..	..	..	..	..	..	..	94	470
	2	32	1880	3,927	122	22	120	..	..	..	..	..	..	..	22	120
	3	84	1881	4,772	57	8	40	..	..	..	..	..	..	..	8	40
Varani	1	40	1873	10,339	258	58	290	..	230	..	..	230	4	920	288	1,210
	Interplanted		1874													
	2	40	1874	8,911	223	115	575	..	318	..	..	318	..	1,272	433	1,847
	3	40	1875	8,108	202	50	250	..	121	..	..	121	..	484	171	734
	4	40	1880	3,189	80	35	175	..	113	..	..	113	..	452	148	627
	5	80	1881	4,178	52	12	60	..	184	..	..	184	..	736	196	796
	1883 & 84	3	1883 and 84	121	40	..	..	..	..	..	..	..	..	..	..	..
Iskápalle	..	6	1870	960	160	104	520	..	..	..	..	..	..	..	104	520
Allipuram	1	18	1870	8,580	476	146	730	..	..	..	..	..	..	..	146	730
	2	36	1881	707	20	..	..	..	..	..	85	85	4	340	85	340
Total ..	..	2,287	..	1,81,427	80	13,962	82,426	585	1,170	4	128	1,883	4	7,532	15,845	89,958
Excess in weighing..												9				
												1,892				

APPENDIX C.

STATEMENT shewing the yield of several compartments felled and thinned during the year 1889-90 according to the plan of operations, Nilgiri district.

Range.	Working circle.	Name of the reserve and block.	Compartment.	Area thinned or felled.		Age when thinned or felled.	Number of trees felled.	Firewood.								Total yield in cubic feet.	Number of belt trees.	Number of standards left.	Total trees.	Estimated quantity of standing trees in cubic feet.	Total yield in cubic feet.	Yield per acre in cubic feet.
								Firewood.		Branchwood head-loads.		Branchwood bullock-loads		Drag poles.								
				Acrs.	Cents.			Lots.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.							
1	2	3	4	5		6	7	8		9		10		11		12	13	14	15	16	17	18
Coonoor.	Coonoor Peak.	Block No. I.	2	7	4	16	411	120	12,000	..	..	..	..	..	..	12,000	100	84	184	1,288	13,288	1,898
	..	..	9	5	8	16	529	133	13,300	1,637	1,637	41	164	..	..	15,101	..	201	201	1,407	16,508	3,300
	..	Block No. II.	12	4	1	16	815	290	29,000	1,487	1,487	156	624	..	..	31,111	..	246	246	1,722	32,833	8,208
	..	Do. „ III.	26	2	9	16	1,200	297	29,700	1,677	1,677	45	180	..	..	31,557	..	236	236	1,652	33,209	16,602
	..	Do. „ IV.	29	5	6	16	2,363	574	57,400	3,960	3,960	171	684	852	852	62,896	350	307	657	4,599	67,495	13,495
	Bandy Shola.	North block..	7	3	95	32	276	119	11,900	1,213	1,213	150	600	..	..	13,713	..	83	83	581	14,294	3,575
	..	South „ ..	27	2	7	33	54	21	2,100	1,016	1,016	141	564	..	..	3,680	..	..	..	..	3,680	1,840
	Bleak-house.	..	1	7	..	..	363	59	5,900	2,313	2,313	63	252	..	..	8,465	..	..	..	..	8,465	1,209
	..	..	5	9	..	..	1,347	218	21,800	5,055	5,055	156	624	..	..	27,479	17	538	555	3,885	31,364	3,485
	Rallia Reserve.	..	4	7	60	19	988	234	23,400	710	710	..	..	..	..	24,110	560	5,030	5,580	39,060	63,170	8,312
Ootacamund.	Cairn Hill.	..	5	5	50	..	2,599	359½	35,950	5,165	5,165	..	..	..	..	41,115	..	..	..	..	41,115	7,475
	Aramby ..	..	5	5	25	..	1,867	297½	29,750	2,139	2,139	..	..	..	..	31,889	..	..	..	..	31,889	6,074
	..	..	10	6	..	..	1,726	343	34,300	2,887	2,887	..	..	..	..	37,187	275	..	275	4,650	41,837	6,973
	..	..	13	2	50	..	1,320	151½	15,150	862	862	..	..	..	..	16,012	..	..	..	..	16,012	6,405
	Governor's Shola.	Chonghatcully.	1	12	..	..	1,989	410	41,000	3,899	3,899	..	..	..	..	44,899	474	..	474	11,250	56,149	4,679
		Governor's shola.	3	11	..	..	2,071	367	36,700	1,417	1,417	..	..	..	..	38,117	272	..	272	4,650	42,767	3,888

APPENDIX D.

STATEMENT shewing free grants during the year 1889-90.

District.	Authority under which granted.	Range.	Locality.	Name of grantee.	Purpose for which granted.	PRODUCE GRANTED. Description.	Number or quantity.	Value. Rs. A. P.
Ganjam		*Nil.*						
Vizagapatam.	Ranger...	Pálkonda	Mallikonda ...	Inhabitants of Garugupalli.	Irrigation works.	Third-class timber.	C. ft. 40	5 0 0
			Addukonda ...	Do. of Pambara.	Do.	Do. do. ...	„ 40	
	Tahsildar.	Sarvasiddhi.	Podapalli	Kolli Ramaya ...	Fencing ...	Bamboos ...	No. 6,144	154 0 0
				Modem Chinnaya ...	Boiling jaggery...	Brushwood ...	C. ft. 20	1 4 0
						Do. ...	„ 10	0 10 0
						Total ...	C. ft. 110 / No. 6,144	160 14 0
Godávari	Collector.	Rámachandrapuram	Bikkavole ...	Inhabitants of Bikkavole village.	For erecting new houses.	Palmyra trees ...	C. ft. 320	123 0 0
			Alamur ...	Village officers ...	For erecting bridges over drains.	Tumma do. ...	„ 320	31 0 0
						Total ...	C. ft. 1,440	154 0 0
Kistna...	Collector.	Palnád ...	Madinapad reserve.	Inhabitants of Déchepalle.	To rebuild their houses burnt.	Palmyra trees No. 8.	C. ft. 120	20 0 0
						Firewood ...	„ 200	12 8 0
						Total ...	C. ft. 320	32 8 0
Nellore.	Collector.	Nellore ...	Golagamoody...	Padikam Raju, Voosa Venkayya and others.	To rebuild their houses burnt.	Palmyra trees ...	54	54 0 0
			Kukupally ...	Pambaty Chinnayya, Nagaya, &c.	Do. do. ...	Do. ...	72	72 0 0
			Kakutur ...	Anana Narayudu, Ponnusamy, &c.	Do. do. ...	Do. ...	50	50 0 0
			Paidoor ...	Sadagiri Veeraya, Koorapati Narasimha, &c.	Do. do. ...	Do. ...	207	207 0 0
			Idagali ...	Dasari Papayya, N. Raghavulu, &c.	Do. do. ...	Do. ...	38	38 0 0
			Ravúr ...	Madiga Vaimaya, Narasimloo, &c.	Do. do. ...	Do. ...	57	57 0 0
			Vavveru ...	Velugu Ramudu, Bellamkonda Latchmigadu, &c.	Do. do. ...	Do. ...	29	29 0 0
			Marripad ...	Patu Subbayya, Makala Pairayya, &c.	Do. do. ...	Do. ...	50	50 0 0
			Iskapollem ...	Yaidukondla Chinnavadu, Ampaka Ramudu, &c.	Do. do. ...	Do. ...	36	36 0 0
	Dy. Collector.	Kávali ...	Venkanapollem.	Village Munsif ...	To repair tanks ...	Palmyra leaves...	400	0 6 5
	Collector.	Kávali ...	Rudrakota ...	Villagers of Rudrakota.	To rebuild their houses burnt.	Palmyra trees ...	62	62 0 0
			Mungamoor ...	Villagers of Mungamoor.	Do. do. ...	Do. ...	114	114 0 0
			Zammulapalem	Villagers of Zammulapalem.	Do. do. ...	Do. ...	36	36 0 0
			Maddurupad ...	Villagers of Marripad.	Do. do. ...	Do. ...	10	10 0 0
			Kávali ...	Villagers of Kávali	Do. do. ...	Do. ...	320	320 0 0
			Maddurupad ...					
			Rudrakota ...					
			Anamadugu ...					
			Tummalapenta.			Palmyra leaves.	80,000	80 0 0
			Tallapalem ...					
						Total ...	C. ft. 11,350 / Mds. 4,020	1,215 6 5

Statement showing free grants during the year 1889-90—*cont.*

District.	Authority under which granted.	Range.	Locality.	Name of grantee.	Purpose for which granted.	Produce granted. Description.	Number or quantity.	Value. Rs. A. P.
Cuddapah.	Collector...	Cuddapah.	Pulivendla ...	M. Veeriah ...	To rebuild his houses burnt.	Third-class timber trees.	8	1 0 0
						Bamboos ...	Cart-load ½	0 10 0
			Palampalle ...	Ryots of village ...	Do. do.	Third-class timber trees.	72	9 0 0
						Bamboos ...	Cart-loads 4½	5 10 0
			Kanuparthi ...	Do.	To rebuild their houses washed away by floods.	Third-class timber trees.	104	13 0 0
						Bamboos ...	Cart-loads 6½	8 2 0
			Mamillapalle ...	Cottappa of Yerramukapalli.	To rebuild their houses burnt.	Third-class timber trees.	10	1 4 0
						Total ...	Trees 194 or 400 C. ft. Bamboos No. 1,725.	38 10 0
Kurnool.	Collector	Sirvél ...	Reddipalle hamlet of Rudravaram.	Madasi Baligadu and 8 others.	To rebuild their houses burnt.	Third-class wood, rough.	Cart-loads 14	17 8 0
						Bamboos ...	Do. 9	11 4 0
		Pattikonda.	Kothapalle hamlet of Vappuvella Govindinne.	Dudikula Vannigadu and 6 others.	Do. ...	Third-class wood, rough.	Do. 13	16 4 0
						Bamboos ...	Do. 12	15 0 0
		Nandikótkur	Nandikótkur ...	Madiga Baligadu and Mala Kunti Nagadu.	Do. ...	Third-class wood, rough.	Do. 4	5 0 0
						Bamboos ...	Do. 3	3 12 0
	District Forest Officer.	Sirvél ...	Sirvél ...	Mahamma Saib and 4 others	Do. ...	Third-class wood, rough.	Do. 10	12 8 0
						Bamboos ...	Do. 5	6 4 0
		Nandyál ...	Ernapad ...	Maddichinna Venkatappa, Pedda Venkatappa, Maddi Thimma and 10 others.	Do. ...	Third-class wood, rough.	Do. 22	27 8 0
						Bamboos ..	Do. 22	27 8 0
		Pattikonda.	Konukuntla ...	Madiga Yerravadu and 2 others.	Do. ...	Third-class wood, rough.	Do. 3	3 12 0
						Total ...	C. ft. 1,320 No. 6,120	146 4 0
Bellary.	Rules under section 26 of the Forest Act.	Bellary and Sandúr.	Government waste lands in Koggalu, Asundí, Kamarachedu, Sandúr and Sankarabanda.	Rao Bahadur A. Sabhapathi Mudaliar of Bellary.	For using as manure for lands irrigated in the Hagri valley.	Tangedu leaves.	Mds. 1,800	320 0 0
						Total ...	Mds. 1,800	320 0 0
Anantapur.		*Nil.*						
Nilgiris.	Rules under section 26 of the Forest Act.	Melúr ...	Village Forests and mund sholas attached to the villages and munds concerned.	Todas and Badagas.	For kondam feast	Jungle-wood trees	Cart-loads. 1- 20 C. ft.	3 0 0
					For building houses.	Do. ...	3- 60 do.	9 0 0
					For building craals.	Do. ...	3- 60 do.	9 0 0
		Sigúr ...	Do. ...	Do. ...	Do. houses.	Do. ...	1- 20 do.	3 0 0
					Do. houses.	Do. ...	17-340 do.	51 0 0
		Ootacamund	Do. ...	Do. ...	Do. craals.	Do. ...	7-140 do.	21 0 0
					Do. funeral sheds.	Do. ...	12-240 do.	36 0 0
		Coonoor ...	Do. ...	Do. ...	Do. craals.	Do.	2- 40 do.	6 0 0
		All ranges ..	Do. ...	Do. ...	For grazing Toda buffaloes.*	.....	.....	725 0 0
						Total ...	C. ft. 920	863 0 0
						Grand Total...	C.ft. 15,860 No. 13,989 Mds. 5,820	2,980 10 5

* 2,900 head.

APPENDIX E.

STATEMENT shewing the approximate area of waste land in which grazing is restricted in the districts of the Northern Circle.

District.	Taluk.	Total area of waste land.	Area under no restrictions as to grazing.	Area in which grazing is free, but in which goats and sheep are excluded.	Area in which fees are charged, but goats and sheep are not excluded	Area in which fees are charged, but in which goats and sheep are excluded.	Remarks.
		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	
Ganjam	Goomsur ..	849	849	..	..	..	
	Berhampore ..	206	206	..	..	..	
	Chicacole ..	99	99	..	..	..	
	Total ..	1,154	1,154	..	..	..	
Vizagapatam ..	Pálkonda ..	222	199	..	..	..	* Goats excluded.
	Golgonda ..	97	77	..	20*	..	Buffaloes, As. 4 per head per annum.
	Sarvasiddhi ..	54	40	..	..	14	Cows, bullock, As. 2 per head per annum.
	Total ..	373	316	..	20	14	Sheep, anna 1 per head per annum.
Godávari	Narsápur ..	117	101	..	..	16	Buffaloes, As. 4 per head per annum. Cows, bulls, &c., As. 2 per head per annum.
	Bhímavaram ..	60	60	..	..	..	
	Tanuku ..	40	33	..	..	..	
	Ellore ..	167	121	..	..	30	
	Yernagúdem ..	197	78	..	..	101	
	Rajahmundry ..	121	44	..	..	73	
	Peddápuram ..	221	69	..	..	142	
	Rámachandrapuram ..	40	40	..	..	..	
	Amalápuram ..	75	61	..	..	14	
	Bhadráchalam ..	696	180	516	..	..	
	Tuni ..	112	14	..	..	98	
	Cocanada ..	16	5	..	..	11	
	Total ..	1,862	806	516	..	485	
Kistna	Palnád ..	582	194	..	140	241	From Rs. 6-4-0 to Rs. 8 per 100 heads.
	Vinukonda ..	251	74	..	80	92	From Rs. 6-4-0 to Rs. 20 per 100 heads.
	Narsaraopet ..	139	93	2	8	13	From Rs. 5 to Rs. 8 per 100 heads.
	Sattenapalle ..	143	43	..	..	100	Rs. 10 per 100 heads.
	Nandigáma ..	108	65	..	12	15	From Rs. 6-4-0 to Rs. 25 per 100 heads.
	Bezváda ..	89	29	..	16	6	From Rs. 6-4-0 to Rs. 12-8-0 per 100 heads.
	Guntúr ..	86	73	2	..	8	Goats are allowed to graze free in unreserved forests only.
	Bápatla ..	242	224	..	..	18	
	Répalle ..	179	165	..	..	14	
	Bandar ..	292	250	42	..	..	
	Gudiváda ..	313	312	..	..	..	
	Total ..	2,424	1,512	46	256	507	
Nellore	Nellore ..	230	161	20	33	16	Per head, anna 1.
	Gúdúr ..	381	282	..	3	5	Rental system.
	Rápúr ..	302	159	..	..	143	
	Atmakúr ..	221	168	27	..	26	From pies 6 to anna 1 per head.
	Udayagiri ..	215	186	135	..	51	This is Village Shekada: goats and sheep graze here. No fees are separately charged.
	Kávali ..	50	46	29	16	6	From pies 6, pies 8 and anna 1 per head.
	Kanigiri ..	235	184	..	..	51	Only goats are excluded in the area under Col. 6; pies 6 in some villages and pies 3 in others per head.
	Kandukúr ..	190	151	19	..	20	Sheep and goats do not graze in areas under columns 4 and 5, but in that under column 3.
	Ongole ..	140	138	..	2	..	Rental system.
	Total ..	1,964	1,475	230	54	318	

Statement shewing the approximate area of waste land in which grazing is restricted in the districts of the Northern Circle—*cont.*

District.	Taluk.	Total area of waste land.	Area under no restrictions as to grazing.	Area in which grazing is free, but in which goats and sheep are excluded.	Area in which fees are charged, but goats and sheep are not excluded.	Area in which fees are charged, but in which goats and sheep are excluded.	Remarks.
		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	
Cuddapah	Jammalamadugu	235	169	..	..	64	Full grazing fees are charged :— Buffaloes, As. 8 per head per annum. Bulls, cows, &c., As. 4 per head per annum.
	Proddutur ..	217	136	..	..	65	
	Badvél ..	536	298	..	..	220	
	Siddhavattam ..	513	206	..	..	267	
	Cuddapah ..	419	203	..	..	199	
	Pulivendla ..	361	272	47	..	42	
	Kadiri ..	764	541	115	..	90	
	Ráyachóti ..	717	472	12	..	201	
	Pullampét ..	721	414	14	..	283	
	Váyalpád ..	578	416	33	..	117	
	Madanapalle ..	561	467	30	..	26	
	Total ..	5,007	3,594	251	..	1,574	
Kurnool	Márkápur ..	684	354	..	330	..	Buffaloes, As. 4 per head per annum. Bulls and Cows, As. 2 per head per annum. Goats, anna 1 per head per annum. Sheep, pies 6 per head per annum.
	Cumbum ..	648	201	..	370	60	
	Sirvél ..	254	54	..	200	..	
	Nandyál ..	429	129	..	295	..	
	Nandikótkur ..	754	354	..	394	..	
	Rámallakót ..	219	216	..	..	..	
	Pattikonda ..	292	290	..	..	..	
	Koilkuntla ..	187	187	..	..	..	
	Total ..	3,467	1,785	..	1,589	60	
Bellary	Adóni ..	227	170	..	..	57	Buffaloes, As. 8 per head per annum. Bulls, cows, &c., As. 4 per head per annum.
	Alúr ..	141	137	..	..	4	
	Bellary ..	248	223	..	..	25	
	Ráyadrug ..	347	329	..	..	18	
	Hospet ..	307	249	..	..	58	
	Kúdligi ..	581	509	..	..	72	
	Harpanahalli ..	348	278	..	..	70	
	Hadagalli ..	213	198	..	..	15	
	Total ..	2,412	2,093	..	..	319	
Anantapur ..	Gooty ..	227	143	..	..	76	Buffaloes, As. 4 per head per annum. Cows, bulls, &c., As. 2 per head per annum. 1 Cart-load of grass cut, As. 5. 1 Head-load of grass cut, pies 3.
	Tadpatri ..	167	139	..	..	23	
	Penukonda ..	417	362	..	..	35	
	Anantapur ..	237	219	..	..	..	
	Dharmavaram.	607	559	..	..	37	
	Hindupur ..	236	193	..	..	35	
	Madakasira ..	256	256	..	..	..	
	Total ..	2,147	1,871	..	..	206	
Nilgiris	Tódanád ..	112	112	..	..	..	
	Merkunád ..	16	16	..	..	..	
	Paranginád ..	29	29	..	..	..	
	Kundahnad ..	18	18	..	..	..	
	South-east Wynaad ..	52	52	..	..	..	
	Total ..	227	227	..	..	..	
	Grand Total ..	21,637	14,833	1,043	1,919	3,483	

Annual Form No. 59-A.

Forest Department, Madras, Northern Circle.

Area of Reserved Forests, 1889-90.

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Ganjam.	Chokapad...	Dimrijholi	5,486	8½	...	...	5,486	8½	.....	
	Pondakhol.	Bondagoocha ...	4,400	7	...	...	4,400	7	.....	
	Bodoboro-singhi.	Malati	1,720	2½	...	...	1,720	2½	.....	
		Total ...	11,606	18	...	...	11,606	18		
Vizaga-patam.	Sarvasiddhi.	Peddapalle	8,960	14	...	...	8,960	14	.....	
		Total ...	8,960	14	...	...	8,960	14		
Godá-vari.	Bhadrá-chalam.	Pulsumamidi ...	...	...	4,520	...	4,520	7	No. 7 of 23rd Dec. 1889.	
		Marigura	...	...	44,500	...	44,500	70	No. 20 of 20th Dec. 1889.	
		Mattapalli	...	...	9,500	...	9,500	15	No. 44 of 21st Jan. 1890.*	
	Delta ...	Coringa	7,000	11	...	...	7,000	11	.....	
		Bendemurlanka ...	...	...	362	...	362	½	No. 31 of 21st Jan. 1890.	
		Narsápur	114	...	...	...	114	...	.....	
		Total ...	7,114	11	58,882	...	65,996	103½		
Kistna.	Baudar ...	Kara	21	...	...	...	21	...	.....	
		Vanudhuru	64	...	...	...	64	...	.....	
		Bomminampadu ...	26	...	...	...	26	...	.....	
		Vémavarampadu ...	16	...	...	...	16	...	.....	
		Allinagaram ...	125	...	...	...	125	...	.....	
	Bezváda	Gavuravaram ...	81	...	*3	...	84	...	.....	* Rectification of area. The block was re-notified—*vide* notification No. 314 of 24th Oct. 1889.
		Bezváda	...	...	300	...	300	½	No. 124 of 10th May 1889.	
		Gunadala	...	...	400	...	400	½	No. 378 of 2nd Dec. 1889.	
		Kondapalle extension	...	...	1,225	...	1,225	2	No. 52 of 21st Jan. 1890.	
	Guntúr ...	Nidamarru ...	...	...	383	...	383	½	No. 372 of 5th Dec. 1889. No. 43 of 21st Jan. 1890.	
		Karlapudi	...	...	994	...	994	1½	No. 63 of 28th Jan. 1890.	
	Krósúr ...	Konanki	3,600	6	...	...	3,600	6	.....	
		Bellamkonda ...	...	...	1,380	...	1,380	2	No. 71 of 4th Feb. 1890.	
	Palnád ...	Tummurukodu ...	24	...	...	...	24	...	.....	
		Gangalakunta ...	...	...	24,461	...	24,461	38	No. 15 of 20th Dec. 1889.	
	Bápatla ...	Lankavanidibba ...	4,480	7	...	...	4,480	7	.....	
		Kothapalem ...	3,840	6	...	...	3,840	6	.....	
		Dindi	...	...	600	...	600	1	No. 78 of 21st March 1889.	
		Adavuladivi ...	...	...	610	...	610	1	No. 345 of 26th Nov. 1889.	
		Bápatla I ...	...	...	245	...	245	½	No. 373 of 5th Dec. 1889.	
		Do. II ...	...	...	1,032	...	1,032	1½	No. 79 of 12th Feb. 1890.	
		Karlapalem I ...	...	...	105	...	105	...	No. 374 of 5th Dec. 1889.	
		Do. II ...	...	...	208	...	208	½	No. 48 of 21st Jan. 1890.	
		Vedullapalli ...	...	...	166	...	166	½	No. 45 do.	
		Total ...	12,277	19	32,109 *3	...	44,389	69		

Area of Reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Nellore.	Ongole	Kottapatam ...	147	...	...	...	147	...	.....	
		Kanuparti	520	1	...	...	520	1	.....	
	Kandukúr	Ramapatam ...	60	...	...	...	60	...	.....	
		Chagollu	...	...	1,010	....	1,010	1½	No. 361 of 26th Nov. 1889.	
		China Laterapi ...	...	...	1,548	...	1,548	2½	No. 19 of 20th Dec. 1889.	
		Ravur	...	...	2,187	...	2,187	3½	No. 51 of 21st Jan. 1890.	
	Kávali ...	Tummalapenta ...	100	...	...	...	100	...	.....	
		Maddurpaud ...	2,012	3	...	...	2,012	3	.....	
		Zaladanki, East ...	...	...	600	...	600	1	No. 293 of 16th Oct. 1889.	
		Do. West ...	...	...	1,254	...	1,254	2	No. 377 of 2nd Dec. 1889.	
		Tummulapenta, South	...	...	392	...	392	½	No. 296 of 22nd Oct. 1889.	
		Dharmavaram ...	...	...	189	...	189	...	No. 336 of 18th Nov. 1889.	
		Zammalapalem ...	...	...	1,130	...	1,130	2	No. 346 of 26th Nov. 1889.	
		Rudrakota	...	...	2,100	...	2,100	3	No. 370 of 2nd Dec. 1889.	
		Gattupalli	...	...	838	...	838	1½	No. 371 do.	
		Gollapalem	...	...	960	...	960	1½	No. 380 of 17th Dec. 1889.	
		Tallapalem	...	...	848	...	848	1½	No. 9 of 20th Dec. 1889.	
		Manubolupad ...	...	...	1,192	...	1,192	2	No. 47 of 21st Jan. 1890.	
	Nellore ...	Iskapalle	23	...	...	...	23	...	.....	
		Kandamur	...	...	1,520	..	1,520	2	No. 333 of 18th Nov. 1889.	
		Kakutur	...	...	480	...	480	1	No. 335 do.	
		Dontali	...	...	1,280	...	1,280	2	No. 338 do.	
		Chemudugunta ...	...	...	320	...	320	½	No. 11 of 20th Dec. 1889.	
		Utukur-Varni Casuarina Plantation.	...	...	607	...	607	1	No. 62 of 28th Jan. 1890.	
		South Mopur ...	...	...	1,000	...	1,000	1½	No. 68 of 6th Feb. 1890.	
	Gúdúr ...	Dugarazpatnam ...	796	2	*404	...	1,200	2	.....	*Rectification of area.
		Kanupur, East ...	...	...	960	...	960	1½	No. 258 of 20th Aug. 1889.	
		Vendodu	...	...	818	...	818	1½	No. 262 of 28th Aug. 1889.	
		Idagali	...	...	480	...	480	1	No. 330 of 9th Nov. 1889.	
		Vodur	...	...	883	...	883	1½	No. 339 of 18th Nov. 1889.	
		Gúdúr	...	...	950	...	950	1½	No. 375 of 2nd Dec. 1889.	
		Tammenapatam Casuarina Plantation.	...	...	485	...	485	1	No. 376 do.	
		Cherukumudi ...	...	...	640	...	640	1	No. 18 of 20th Dec. 1889.	
		Vellipedu	...	...	720	...	720	1	No. 30 of 21st Jan. 1890.	
		Chillakur	...	...	460	...	460	1	No. 50 do.	
		Vinduru	...	...	300	...	300	½	No. 64 of 28th Jan. 1890.	
	Atmakúr	Telugurayapuram ...	...	...	768	...	768	1	No. 294 of 22nd Oct. 1889.	
		Srikolanu	...	...	1,521	...	1,521	2½	No. 322 of 5th Nov. 1889.	
		Chejerla	...	...	1,121	...	1,121	2	No. 49 of 21st Jan. 1890.	
	Rápúr ...	Turimerla	...	...	640	...	640	1	No. 363 of 26th Nov. 1889.	
		Total ...	3,658	6	30,196 *404	...	34,258	54½		

Area of Reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Cuddapah.	Kódúr ...	Kodúr Plantation ...	50	...	...	...	50	...	.....	
		Thanakonda ...	1,048	2	..	...	1,048	2	.. ...	
		Uparapalle	108	.	...	...	108	..	.....	
		Kodur Hill	7,440	11½	...	...	7,440	11½	.....	
		Seshachellam ...	128,000	200	...	..	128,000	200	.....	
		Settikunta	8,960	14	...	...	8,960	14	.....	
	Rajampet	Salivendra	12,800	20	...	...	12,800	20	.....	
		Pullampet	426	½	...	...	426	½	.....	
		Reddipalle	1,284	2	...	...	1,284	2	.....	
		Vattalúr	2,880	4½	...	...	2,880	4½	.....	
	Sidhout	Kanamalapalle ...	4,435	7	...	...	4,435	7	.....	
		Malliamkonda ...	10,240	16	..	...	10,240	16	.....	
	Badvél	Kavalakuntla ...	9,920	15½	...	...	9,920	15½	.....	
		Ganugapenta ...	14,080	22	...	...	14,080	22	.....	
	Cuddapah...	Kamalapuram ..	485	1	...	...	485	1	.....	
	Ráyachóti	Sibbyála	3,500	5½	...	...	3,500	5½	.. ...	
		Tsundupalle ...	3,000	4½	...	...	3,000	4½	.....	
		Gadikota	12,462	19½	...	...	12,462	19½	.. ...	
	Váyalpád	Yellutla	2,840	4½	...	...	2,840	4½	...	
	Madanapalle	Kotammakonda ...	...	...	640	...	640	1	No. 231 of 30th July 1889.	
		Total ...	223,958	350	640	...	224,598	351		
Bellary.	Bellary ...	Timmapuram ...	...	...	1,046	...	1,046	1½	No. 166 of 15th June 1889.	
	Kúdligi ...	Gollalingammanahalli.	...	...	1,000	...	1,000	1½	No. 10 of 20th Dec. 1889.	
		Total ...	...	...	2,046	...	2,046	3		
Anantapur.	Gooty ...	Khojjapalle ...	367	½	...	...	367	½	.. ...	
	Anantapur.	Anantapur ...	131	...	...	...	131	...	.....	
	Penukonda.	Narsampalle ...	1,280	2	...	...	1,280	2	.....	
		Kottakotá	5,120	8	...	...	5,120	8	.....	
	Hindupur ...	Somarajmalai ...	1,920	3	...	...	1,920	3	.....	
		Total ...	8,818	13½	...	..	8,818	13½		
Nilgiris.	Ootacamund.	Marliamund Plantation.	17	...	...	...	17	...	.....	
		Aramby	430	½	...	...	430	½	.....	
		Marliamund ...	194	...	...	...	194	...	.....	
		Cairn Hill	559	1	...	...	559	1	.....	
		Brooklands	177	½	...	...	177	½	.. ...	
		Lovedale	296	½	...	...	296	½	.....	
		Craigmore	299	½	...	...	299	½	.....	
		Doddabetta	991	1½	...	...	991	1½	.....	
		Snowdon	1,053	2	...	...	1,053	2	.....	
		Jakuntha	373	½	...	...	373	½	.....	
		Muthanád	420	1	...	...	420	1	... ..	
		Governor's Shola ...	2,671	4½	...	...	2,671	4½	.. ...	
		Pykara	1,309	2	...	...	1,309	2	.....	
		Sandynullah ...	818	1	...	...	818	1	.....	
		Kengodu	451	½	...	...	451	½	.....	
		Karpakan	391	½	...	...	391	½	.....	
	Naduvatam.	Naduvatam Sholas ..	1,501	2	...	...	1,501	2	.....	
		Vellingiri	643	1	...	...	643	1	.....	
		Kadcoopa	1,622	2½	...	...	1,622	2½	.....	
		Mukurti	8,953	14	...	...	8,953	14	.....	
		Northernhay ...	3,998	6	...	...	3,998	6	.....	
		Naduvatam ...	3,411	5½	...	...	3,411	5½	... ..	
		Gadsbrook ...	230	1	...	...	230	1	.....	
		Cherambadi ...	1,983	3	...	...	1,983	3	.....	
		Ammankaval ...	563	1	...	...	563	1	.....	
	Melúr ...	Kundahs	40,521	63	...	...	40,521	63	.....	
		Mukeru	1,267	2	...	...	1,267	2	.....	
		Thia Shola	1,551	2½	...	...	1,551	2½	.....	
		Hiriyashige	2,175	3½	...	...	2,175	3½	... ..	
		Ithalar	460	1	...	...	460	1	.....	

Area of Reserved Forests, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Nílgiris—*cont.*	Melúr—*cont.*	Devashola	215	¼	...	...	215	¼	.....	
		Balakola	935	1½	...	...	935	1½	.....	
		Athigarahatti ...	34	...	...	...	34	...	.....	
		Sutton Shola ...	52	...	...	...	52	...	.....	
		Commandu	993	1½	...	...	993	1½	. ....	
		Pembroke	122	...	...	...	122	...	... ..	
	Coonoor	Hulikal	6,411	10	...	...	6,411	10	.....	
		Honnathalai ...	320	½	...	...	320	½	.....	
		Ralliа	189	¼	...	...	189	¼	.....	
		Black Bridge ...	390	½	...	...	390	½	... ..	
		Coonoor Peak ...	540	¾	...	...	540	¾	.....	
		Lamb's Rock ...	708	1	...	...	708	1	.....	
		Tiger Hill	328	½	...	...	328	½	... .	
		Ghát Reserve ...	311	½	...	...	311	½	.....	
		Hill Grove	187	¼	...	...	187	¼	.....	
		Kullar	1,815	3	...	...	1,815	3	.....	
	Kótagiri ...	Kótagiri	563	1	...	...	563	1	.....	
	Sigúr	Kalhatti slopes ...	8,983	14	...	...	8,983	14	.....	
		Ebanad	571	1	...	...	571	1	.....	
	Mudumalai.	Benné	11,068	17	...	...	11,068	17	.. ..	
		Moyar	13,580	21	...	...	13,580	21	.....	
		Total ...	127,642	199½	...	...	127,642	199½		
		Grand Total ...	404,033	631	123,873 * 407	...	528,313	826	.....	* Rectification of area

Abstract.

District.	Area on 1st April 1889.	Added during the year.	Excluded or transferred to other heads	Area on 31st March 1890.
	SQ. MILES.	SQ. MILES.	SQ MILES.	SQ. MILES.
Ganjam	18	...	...	18
Vizagapatam	14	...	...	14
Godávari	11	92½	...	103½
Kistna	19	50	...	69
Nellore	6	48½	...	54½
Cuddapah	350	1	...	351
Kurnool	...	...	...	..
Bellary	.	3	...	3
Anantapur	13½	...	...	13½
Nílgiris	199½	...	...	199½
Total ...	631	195	...	826

FORM No. 59-B.

Forest Department, Madras, Northern Circle.

Area of Forests Reserved under previous orders, 1889-90.

District.	Range.	Name of Forest.	AREA ON 1ST APRIL 1889.		ADDED DURING THE YEAR.	EXCLUDED OR TRANSFERRED TO OTHER HEADS.	AREA ON 31ST MARCH 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Cuddapah.	Rayachóti ...	Mudampad	...	...	3,200	...	3,200	5		
	Proddatur.	Rameswaram ...	...	...	91		91			The rest of the areas given under Form 59-B in the annual report for 1887-88 are all included now (though sometimes under different names) either in Form 59-A or 59-C.
		Thullamapuram ...	...	...	153		153			
		Vellala	...	...	258		258			
		Alladapalle	...	...	197		197			
		Paydala	...	...	99	...	99	2	.....	
		Kottapalli	...	...	120		120			
		Modumidapalle ...	...	...	86		86			
		Anantapuram ...	...	...	138		138			
		Kallur	...	...	160		160			
	Kadiri ...	Malukaveimla ...	...	...	3,580	...	3,580	5½		
		Total ...	...	...	8,082	...	8,082	12½		

Annual Form No. 59-C.

Forest Department, Madras, Northern Circle.

Area of Reserved Lands, 1889-90.

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Ganjam.	Bodoborosinghi.	Kalisamba .. S	5,200	8	...	...	5,200	8		
		Teleki ... S	15,200	24	...	...	15,200	24		
		Baibali	21,920	34	...	...	21,920	34		
		Vinjagheri S	6,000	9	...	...	6,000	9		
		Rogoda	16,000	25	...	...	16,000	25		
	Chokapad ...	Darpangia ...	16,160	25	...	...	16,160	25		
		Rambha	9,300	15	...	...	9,300	15		
		Gullery	23,860	37	...	...	23,860	37		
		Koolada ... S	2,760	4	...	...	2,760	4		
	Gayagonda ...	Ambazara S	32,000	50	...	...	32,000	50		
		Chodiapalli S	960	2	...	...	960	2		
		Chondorgiri S	18,320	29	...	...	18,320	29		
		Gundribadi S	12,200	19	...	...	12,200	19		
		Gogodo ... S	15,240	24	...	...	15,240	24	Notfn. No. 199 of 13th Oct. 1884.	
	Jagannathprasad.	Paichalia ... S	13,760	22	...	...	13,760	22		
		Brahmanosai S	8,080	13	...	...	8,080	13		
		Jagannathprasad S	26,200	41	...	...	26,200	41		
	Buguda ...	Panchabuthi S	4,320	6	...	...	4,320	6		
		Kurcholi	5,520	8	...	...	5,520	8		
		Kriyamba	23,320	36	...	...	23,320	36		
		Sandusalya S	2,000	3	...	...	2,000	3		
		Bodochendana S	800	1	...	...	800	1		
		Vishnuchakram S	4,860	8	...	...	4,860	8		
	Pondokol ...	Dhougam	2,400	4	...	...	2,400	4		
		Pipalupanka ...	7,700	12	...	...	7,700	12		
		Moondapitta S	6,880	11	...	...	6,880	11		
		Hukuma	4,160	7	...	...	4,160	7		
		Rayigoda ... S	6,700	11	...	...	6,700	11		
		Dabuki ... S	1,450	2	...	...	1,450	2	Notfn. No. 54 of 26th Feb. 1889.	
	Berhampore...	Ramagodo ...	6,620	10	...	..	6,620	10	Notfn. No. 311 of 2nd Nov. 1885.	
		Bainamari ...	3,750	5½	...	...	3,750	5½		
		South Mohiri ...	3,730	5½	...	..	3,730	5½		
		Bollibogoda ...	261	1	...	...	261	1	Fuel and Fodder Reserves. Bd.'s Procs. No. F. 285 of 20th May 1887.	
		Balakristnapuram.	164	...	...	...	164	...		
		Chatrapur ...	695	1	...	...	695	1		
		Dura	279	1	...	...	279	1		
		Golabondo ...	379				379			
		Podhora	760	1	...	...	760	1		
		Mushidipolem ...	238	...	...	...	238	...		
		Kusimi	625	1	...	...	625	1		
		Bendaliya	163	...	...	...	163	..		
		Mohoda	419	1	...	...	419	1		
		Mushiyakalli ...	522	1	...	...	522	1		
		Ankusapuram ..	138	...	...	...	138	...		
		Mohughora ...	1,697	2	...	...	1,697	2		
		Maharlapalli ...	924	2	...	...	924	2		
		Virakrishnachandrapuram.	445	1	...	...	445	1		
		Goduhill	225	...	...	...	225	...		
		Joronohill ...	1,002	2	...	...	1,002	2		
		West Batukamarada.	179	...	...	...	179	...		
		Nimmapuram ...	697	1	...	...	697	1		
		Sikharapuram ...	260	1	...	...	260	1		
		Shapuram	142	...	...	...	142	...		
		Total ...	337,584	527	...	...	337,584	527		
Vizagapatam.	Golgonda ...	Arlova	...	...	1,500	...	1,500	2½	Notfn. No. 316 of 22nd Oct. 1889.	
		Pedimkonda ...	...	...	1,000	...	1,000	1½		
		Kakurlakonda ...	...	...	1,500	...	1,500	2½		
		Venkatapuram ...	...	...	1,500	...	1,500	2½		
		Kodavalipudi ...	...	...	1,000	...	1,000	1½		
		Total ...	...	...	6,500	...	6,500	10½		

'S' denotes that the settlement is completed.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Godávari.	Peddápuram ...	Ragoovapatnam ...	12,160	19	...	...	12,160	19	Notfn. No. 448 of 23rd Nov. 1886.	
		Sullanka	17,920	28	...	...	17,920	28		
		Anantavaram ...	8,320	13	...	...	8,320	13		
		Totapalle	3,520	5	...	...	3,520	5		
		Oligogola	20,800	32	...	...	20,800	32		
		Ramasaram ...	2,500	4	...	...	2,500	4	Notfn. No. 213 of 23rd May 1887.	
		Murari ... S	2,000	3	...	*1,300	700	1	Notfn. No. 134 of 9th May 1888.	
		Kovida	2,100	3½	...	...	2,100	3½		
		Banadapalli ...	...	...	6,800	...	6,800	10½		
		Lododdi	...	...	8,400	...	8,400	13		
		Vatangi	...	...	11,000	...	11,000	17		
		Aminbada	...	...	5,600	...	5,600	9		
		Anantagiri	..	...	3,900	...	3,900	6		
		Laburti	...	...	8,100	...	8,100	12½	Notfn. No. 281 of 1st Oct. 1889.	
		Doramamidi ...	...	...	7,200	...	7,200	11		
		Verabhadram ...	...	...	11,200	...	11,200	17½		
		Jeddangi	...	...	6,700	...	6,700	10½		
		Annavaram	...	..	10,500	...	10,500	16½		
		Peddagurangi ...	...	...	5,800	...	5,800	9		
		Lingamparti ...	...	...	7,600	...	7,600	12		
		Devaucheruvu S	5,000	8	...	...	5,000	8	Notfn. No. 308 of 26th July 1886.	
	Rajahmundry.	Lakkonda ...	...	...	13,000	...	13,000	20½		
		Molleru	...	...	10,000	...	10,000	16	Notfn. No. 282 of 1st Oct. 1889.	
		Sudikonda ..	...	..	5,300	...	5,300	8		
		Mallavaram ...	...	...	6,500	...	6,500	10		
		Tirumaliapalem ...	...	...	9,200	...	9,200	15		
	Bhadráchalam.	Mulkanapalli S	5,300	8	...	*1,642	3,658	5½		
		Dumagudem S	9,200	15	...	*3,090	6,110	9½		
		Arlaguram S	7,000	11	...	*864	6,136	9½		
		Tunikicheruvu S	13,800	22	...	*2,940	10,860	17		
		Bhadráchalam S	12,700	20	...	*4,678	8,022	12½		
		Gogubaka .. S	2,000	3	...	*334	1,666	2½		
		Komanpalli S	4,400	7	...	*1,150	3,250	5		
		Bandreo ... S	10,900	17	...	...	10,900	17		
		Golaguppa S	8,500	13	...	*500	8,000	12½		
		Narakonda S	7,500	12	...	...	7,500	12	Notfn. No. 18 of 19th Dec. 1885.	
		Pengha ... S	4,600	7	...	*200	4,400	7		
		Upanapalli S	3,300	5	...	...	3,300	5		
		Tatlunka ... S	12,600	20	...	*600	12,000	19		
		Ramchandram S	10,300	16	...	...	10,300	16		
		Rapak * ... S	8,000	12	...	*1,000	7,000	11		
		Sitarampuram S	3,000	5	...	...	3,000	5		
		Bhandargudem S	7,100	11	...	...	7,100	11		
		Burkankota S	1,500	2	...	...	1,500	2		
		Kuler ... S	6,500	10	...	...	6,500	10		
		Nialakota ... S	2,700	4	...	*200	2,500	4		
		Lakewaram S	7,200	11	...	*700	6,500	10		
		Kanslur ... S	7,000	11	...	*800	6,200	10		
		Mattapalli S	13,000	20	...	†9,500 *3,500	...	...		
		Pulsmamidi S	6,800	11	...	†4,520 *2,280	...	...		
		Walsugri	8,700	14	...	...	8,700	14	Notfn. No. 18 of 19th Dec. 1885.	
		Rekapalle hills ...	107,700	168	...	...	107,700	168		
		Marigura ... S	45,500	71	...	†44,500 *1,000	...	...		
	Elloro ...	Velagalapalle S	2,560	4	...	*360	2,200	3½	Notfn. No. 210 of 23rd May 1887.	
		Chintalapudi S	2,560	4	...	*1,460	1,100	1½		
		Barrikonda S	3,840	6	...	*340	3,500	5½		
		Erraguntapalle S	9,600	15	...	*960	8,640	13½		
		Bandamcherla S	6,400	10	...	*1,200	5,200	8		
		Tadikalapudi S	*2,560	4	...	*60	2,500	4		
		Ramasingavaram S	1,920	3	...	...	1,920	3		
		Ungutur	...	...	4,500	...	4,500	7	Notfn. No. 145 of 21st May 1889.	
	Delta ...	Upputer	10,000	15½	...	...	10,000	15½	Notfn. No. 291 of 29th July 1887.	
		Bendemurlanka S	371	1	...	†362 *9	...	...		
		Kandikuppa ...	...	...	9,000	...	9,000	14	Notfn. No. 288 of 11th Oct. 1889.	
	Yernagúdem...	Jilugumilli ...	...	...	3,300	...	3,300	5	Notfn. No. 285 of 1st Oct. 1889.	
		Darbhagudem ...	...	...	2,200	...	2,200	3½		
		Barrinkalapadu ...	...	...	1,600	...	1,600	2½		
		Thaduvai ...	...	...	1,900	...	1,900	3		

* Rectification of area.

† Transferred to Form 59-A.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Godávari—*cont.*	Yernagúdem—*cont.*	Marlagudem ...	...	...	2,700	...	2,700	4	Notfn. No. 285 of 1st Oct. 1889.	
		Beddadavole * ...	...	...	15,000	...	15,000	23½		
		Rajahmundram ...	...	...	400	...	400	½		
		Nallacheria ...	...	...	11,000	...	11,000	17		
		Kopilli	...	...	19,000	...	19,000	30		
		Kovada	...	...	19,000	...	19,000	30		
		Total ...	450,931	704	226,400	* 31,167 † 58,882	587,282	917		
Kistna.	Bezváda ...	Kondapalle ‡ S	35,222	54½	...	† 1,225	33,997	52½	Notfn. No. 143 of 30th July 1884.	
		Kothur	7,593	12	...	..	7,593	12		
		Bezváda ... S	300	½	...	† 300	...	...		
		Gunadhala S	400	½	...	† 400	...	...		
		Budavada .. S	4,650	7½	...	...	4,650	7½	Notfn. No. 143 of 30th July 1884.	
		Jaggayapeta S	4,650	7½	...	...	4,650	7½		
		Kondúr ... S	3,000	5	...	...	3,000	5	Notfn. No. 351 of 11th Oct. 1887.	
	Guntúr ...	Kondavíd ... S	13,156	20½	...	...	13,156	20½	Notfn. No. 143 of 30th July 1884.	
		Tadepalle ... S	2,300	3½	...	...	2,300	3½		
		Kuragallu ... S	1,290	2	...	...	1,290	2		
		Nidamarru S	581	1	...	† 383 * 198	...	...		
		Narakodúr S	811	1	...	* 206	515	1	Notfn. No. 143 of 30th July 1884.	
		Karlapudi ... S	559	1	* 435	† 994	...	...		
		Kolakalúr	...	...	1,403	...	1,403	2	Notfn. No. 32 of 11th Jan. 1890	
	Krosúr ...	Venkatayya-palem. ‡ S	46,201	72	3,000	...	49,201	77	Notfn. No. 143 of 30th July 1884 and Notfn. No. 317 of 29th Oct. 1889.	
		Bellamkonda S	1,675	2½	...	† 1,380 * 295	...	...		
		Novalipur... ...	11,870	19	...	...	11,870	19	Notfn. No. 143 of 30th July 1884.	
	Vinukonda	Bollapalli ... ‡ S	37,712	59	12,000	...	49,712	78	Notfn. No. 317 of 29th Oct. 1889.	
		Guttikonda ...	42,241	66	...	...	42,241	66		
		Kakirala ... S	28,864	45	...	...	28,864	45	Notfn. No. 143 of 30th July 1884.	
	Palnád ...	Madinapadu S	9,600	15	...	...	9,600	15		
		Pasvemula ...	22,782	36	...	...	22,782	36		
		Kandlagunta ...	34,947	55	...	...	34,947	55		
		Gangalakunta S	24,514	38	...	† 24,461 * 53	...	...		
		Mutukur ... S	31,418	49	...	§ 10	31,408	49	Notfn. No. 143 of 30th July 1884.	
	Bápatla ...	Muthayyapalem S	9,842	15	...	* 273	9,569	14½		
		Pandhillapalli S	162	...	...	...	162	...	Notfn. No. 38 of 28th Jan. 1885.	
		Wardarevu S	82	...	...	...	82	...		
		Nayanapalli S	156	...	...	...	156	...		
		Bápatla, No. I S	247	1	...	† 245 * 2	...	...		
		Do. „ II S	840	1	* 192	† 1,032	...	...		
		Karlapalem, No. I. S	107	...	...	† 105 * 2	...	...		
		Do. „ II. S	218	1	...	† 208 * 10	...	...		
		Vodhullapalle S	166	...	...	† 166	...	...		
		Kottapalem, No. II. S	3,100	5	...	...	3,100	5	Notfn. No. 350 of 11th Oct. 1887.	
		Adavuladivi S	610	1	...	† 610	...	...		
		Dindi ... S	600	1	...	† 600	...	...		
	Bandar ...	Yellichettidibba S	4,640	7½	...	...	4,640	7½	Notfn. No. 91 of 8th Feb. 1887.	
		Nachugunta S	8,640	14	...	...	8,640	14		
		Sorlagundi S	2,880	4	...	...	2,880	4		
		Gollapalem S	390	½	...	...	390	½	Notfn. No. 38 of 28th Jan. 1885.	
		Kodúr ... S	38	...	...	...	38	...		
		Palakayatippa S	2,880	4	...	...	2,880	4	Notfn. No. 91 of 8th Feb. 1887.	
		Bandar Fort S	7,500	12	...	...	7,500	12		
		Kanukollu S	667	1	..	...	667	1	Notfn. No. 38 of 28th Jan. 1885.	
		Total ...	410,101	641	17,030	* 1,139 † 32,109	393,883	616		

* Rectification of area. † Transferred to Form 59-A. ‡ Part only settled.
§ Struck off. Notification No. 227 of 22nd July 1889.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Nellore.	Ongole ...	Chimakurthi ...	7,500	12	...	...	7,500	12	Notfn. No. 185 of 13th Oct. 1883.	
		Ongole ... S	200	...	...	...	200	...	Notfn. No. 205 of 23rd Nov. 1883.	
	Kandukúr ...	Chagollu ... S	1,150	2	...	† 1,010 * 140	...	...		
		Buddepudi S	640	1	...	* 140	500	1	Notfn. No. 96 of 15th Feb. 1887.	
		Chakicherla S	320	½	* 3	...	323	½		
		Ramapatam S	1,280	2	236	...	1,516	2½		
		Ravúr ... S	1,520	2	* 667	† 2,187	...	...		
		Mocherla, Chalamcherla. S	12,290	19	...	...	12,290	19	Notfn. No. 96 of 15th Feb. 1887.	
		China Laterapi S	1,000	1½	* 548	† 1,548	...	...		
		Gudlúr ... S	2,800	4½	* 632	...	3,432	5½	Notfn. No. 96 of 15th Feb. 1887.	
		Kávali	2,933	5	...	...	2,933	5	Board's Procs., No. 3216 of F. 647 24th Nov. 1885.	
		Kávali ... S	1,610	2½	390	...	2,000	3	Notfn. No. 97 of 15th Feb. 1887.	
		Rudrakota S	1,800	3	* 300	† 2,100	...	...		
		Narayanapuram S	1,600	3	* 792	...	2,392	4	Notfn. No. 97 of 15th Feb. 1887.	
		Zammalapalem S	1,280	2	...	† 1,130 * 150	...	...		
		Zaladanki ... S	900	1½	* 954	† 1,854	...	...		
		Gattupalli ... S	960	1½	...	† 838 * 122	...	...		
		Kesavaram S	1,800	3	...	* 892	908	1½	Notfn. No. 97 of 15th Feb. 1887.	
		China Annalúr S	2,000	3	* 1,400	...	3,400	5		
		Tummalapenta ‡ S	4,240	7	...	† 392 * 288	3,560	5½		
		Gollapalem S	960	1½	...	† 960	...	...		
		Tallapalem S	960	1½	...	† 848 * 112	...	...		
	Kávali ...	Bitragunta S	3,400	5	...	* 1,492	1,908	3	Notfn. No. 97 of 15th Feb. 1887.	
		Nagalavaram S	960	1½	...	* 546	414	½		
		Zakkepalle-Gudúr S	800	1	...	...	800	1		
		Chamadala S	850	1½	...	* 100	750	1		
		Manubolupad S	1,120	2	* 72	† 1,192	...	...		
		Dundigam S	500	1	* 15	...	515	1	Notfn. No. 97 of 15th Feb. 1887.	
		Dharmavaram S	200	½	...	† 189 * 11	...	...		
		Mungamore ...	94	..	...	...	94	...	Board's Procs., No. F. 371 of 1st July 1887.	
		Kadanutla ...	289	½	...	...	289	½		
		Talapalem ...	761	1	...	...	761	1		
		Kávali	1,511	2	...	...	1,511	2		
		Kolladinne ...	561	1	...	...	561	1		
		Musunúr	1,014	1½	...	...	1,014	1½		
		Anamadugu ...	941	1½	...	...	941	1½		
		Chennayyapolliem.	1,161	2	...	...	1,161	2		
		Tummalápenta ...	2,476	4	...	...	2,476	4		
		Rudrakota ...	343	½	...	...	343	½		
		Kanigiri	1,500	2	...	...	1,500	* 2	Notfn. No. 205 of 23rd Nov. 1883.	
	Kanigiri ...	Nandavanam ...	17,000	27	* 1,000	...	18,000	28	Notfn. No. 190 of 6th July 1885.	
		Vedullacheruvu ...	8,000	13	* 1,000	...	9,000	14		
		Udayagiri-Durgam.	7,000	11	* 6,440	...	13,440	21	Notfn. No. 185 of 13th Oct. 1883.	
	Udayagiri ...	Yerrakondas ...	2,500	4	* 11,580	...	14,080	22	Notfn. No. 238 of 22nd Aug. 1885.	
		Udayagiri (East) and Appasamudram.	1,000	2	...	...	1,000	2	Notfn. No. 243 of 1st July 1887.	
	Atmakúr and Udayagiri.	Udayagiri Velligondas.	23,000	36	* 37,140	...	60,140	94	Notfn. No. 164 of 10th June 1885.	
		Bommavaram S	1,500	2	* 1,500	...	3,000	4½	Notfn. No. 247 of 1st July 1887.	
		Telugurayapuram. S	800	1	...	† 763 * 37	...	...		
	Atmakúr ...	Turpukambhampadu. S	960	1½	...	* 99	861	1½	Notfn. No. 101 of 15th Feb. 1887.	
		Chejerla ... S	1,120	2	* 1	† 1,121	...	...		
		Srikolanu S	1,040	2	* 481	† 1,521	...	...		
	Atmakúr and Nellore.	Prabhagiripatnam S	1,000	2	* 1,500	...	2,500	4	Notfn. No. 247 of 1st July 1887.	
	Nellore ...	Utukur-Varni C.P. S	472	½	* 135	† 607	...	...		

* Rectification of area. † Transferred to Form 59-A. ‡ Part only settled.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Nellore—*cont.*	Nellore—*cont.*	Marripad ... S	1,760	3	...	*360	1,400	2	Notfn. No. 99 of 15th Feb. 1887.	
		Turimerla ... S	640	1	...	*20	620	1		
		Dagadarti ... S	3,200	5	...	*334	2,866	4½		
		Kottapalli ... S	4,480	7	...	*250	4,230	6½		
		Vavveru ... S	4,160	6½	...	*1,190	2,970	4½		
		Amancherla S	1,440	2	...	...	1,440	2		
		Dontali ... S	1,280	2	...	†1,280	...	...		
		Chemudugunta S	320	½	...	†320	...	...		
		Kakutur ... S	480	¾	...	†480	...	...		
		Nellore	2,560	4	...	...	2,560	4	Notfn. No. 99 of 15th Feb. 1887	
		Kondlapudi ..	1,440	2	...	...	1,440	2		
		Kandamúr S	1,520	2½	...	†1,520	...	...		
		South Mopúr S	1,000	1½	...	†1,000	...	...		
		Allipuram ... S	200	...	...	*80	120	...	Notfn. No. 250 of 1st July 1887.	
		Striharikota and its outliers.	35,710	56	...	...	35,710	56	Notfn. No. 185 of 13th Oct. 1883.	
		Kottapatam Plantation.	385	1	...	...	385	1	Notfn. No. 205 of 23rd Nov. 1883.	
		Tamminapatnam Plantation. S	485	1	...	†485	...	...		
		Yellasari	2,080	3	...	...	2,080	3	Notfn. No. 98 of 15th Feb. 1887.	
		Vellipedu ... S	720	1	...	†720	...	...		
		Ipuru ... S	450	1	*583	...	1,033	2	Notfn. No. 98 of 15th Feb. 1887.	
		Tamminapatnam, W. S	800	1	...	...	800	1		
		Momidi	2,040	3	...	...	2,040	3		
		Ankulapatur S	310	½	...	*70	240	½		
		Pidatalapudi S	800	1	...	*50	750	1		
		Kadivédu ... S	880	1	*38	...	918	1½		
	Gúdúr ...	Nellaballi ... S	320	½	...	*45	275	½	Notfn. No. 98 of 15th Feb. 1887.	
		Chillakúr ... S	480	¾	...	†460 *20	...	...		
		Gúdúr ... S	2,400	4	...	†950 *1,450	...	...		
		Vendodu ... S	700	1	*118	†818	...	...		
		Vedicherla ...	700	1	...	...	700	1	Notfn. No. 98 of 15th Feb. 1887.	
		Vindur ... S	300	½	...	†300	...	...		
		Madamanúr S	400	⅝	*160	...	560	1	Notfn. No. 98 of 15th Feb. 1887.	
		Idagali ... S	480	1	...	†480	...	...		
		Sarvepalli ... S	2,880	4½	...	*130	2,750	4	Notfn. No. 98 of 15th Feb. 1887.	
		Kanupur ... S	3,200	5	...	†960 *266	1,974	3		
		Cherukumundi S	640	1	...	†640	...	...		
		Kottapatam ...	2,500	4	...	...	2,500	4	Notfn. No. 98 of 15th Feb. 1887.	
	Rápúr ...	Turpupundla S	960	1½	*40	...	1,000	1½	Notfn. No. 100 of 15th Feb. 1887.	
		Sydapuram ...	2,080	3	...	...	2,080	3		
		Chaganam S	2,720	4	...	*1,220	1,500	2		
		Utukur ... S	640	1	*85	...	725	1		
		Turimerla S	640	1	...	†640	...	...		
		Tummalatalpur S	3,680	6	*320	...	4,000	6½	Notfn. No. 100 of 15th Feb. 1887.	
		Marlapudi ...	4,480	7	...	...	4,480	7		
		Pategunta ...	1,600	2½	...	...	1,600	2½		
		Paluru	400	1	...	...	400	1		
		Chikavolu S	1,120	2	...	*20	1,100	2		
		Cherlopalli ...	3,360	5	...	...	3,360	5		
		Potukonda ...	2,240	3½	...	...	2,240	3½		
		Guttikonda ...	160	...	...	...	160	...		
		Marollakon'a ...	520	1	...	...	520	1	Notfn. No. 100 of 15th Feb. 1887.	
		Veminabhi ...	2,080	3	...	...	2,080	3		
		Nellapalli S	1,840	3	*260	...	2,100	3		
		Kakerlakonda ...	3,680	6	...	...	3,680	6		
		Yerragondas ..	17,000	26½	*2,000	...	19,000	29½		
		Vavintaparti S	1,280	2	*20	...	1,300	2		
		Kummaragunta ...	480	1	...	...	480	1		
		Pulikollu ... S	640	1	*100	...	740	1		
		Mogallur ... S	720	1	*237	...	957	1½		
		Duggunta ... S	960	1½	*240	...	1,200	2		
		Podalakur ..	1,920	3	...	...	1,920	3		

* Rectification of area. † Transferred to Form 59-A.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Nellore—*cont.*	Rápúr—*cont.*	Birdavolu ... S	2,400	4	...	...	2,400	4	Notfn. No. 100 of 15th Feb. 1887.	
		Vadlapudi	2,400	4	...	...	2,400	4		
		Marupur ... S	3,680	6	...	* 550	3,130	5		
		Toderu ... S	800	1	...	* 50	750	1		
		Nernúr	2,400	4	...	...	2,400	4		
		Chittaluru S	480	1	* 35	...	515	1		
		Ayyagaripalem S	320	½	...	...	320	½		
		Griddalúr	500	1	...	...	500	1	Notfn. No. 506 of 5th July 1887.	
	Rápúr and Atmakúr.	Rápúr Veligondas S	27,000	42	* 3,720	...	30,720	48	Notfn. No. 164 of 10th June 1886.	
		Total ...	313,656	493	74,905	* 10,234 † 30,196	348,131	543½		
Cuddapah.	Kódúr ...	Settikunta ...	960	1½	...	...	960	1½	Collr.'s notice of 7th March 1885.	Left reserved land after settlement.
		Cheyavaram S	4,480	7	...	...	4,480	7	Notfn. No. 304 of 24th July 1886.	
		Kódúr	2,160	3½	...	...	2,160	3½	Collr.'s notice of 7th March 1885.	Do.
		Gotimanikona S	3,840	6	...	...	3,840	6	Notfn. No. 304 of 24th July 1886.	
		Yerraguntlakota ...	6,400	10	...	* 4,480	1,920	3	Collr.'s notice of 7th March 1885.	
		Avalapenta S	960	1½	...	...	960	1½	Notfn. No. 304 of 24th July 1886.	
		Mushtiyeru S	4,480	7	...	...	4,480	7		
		Tippayapalli S	960	2	...	...	960	2		
		Kodivengamabavi ...	2,400	4	...	...	2,400	4		
		Marrintla ... S	6,400	10	...	...	6,400	10		
		Reddipalle Plantation.	...	...	516	...	516	1	...	Left reserved land after settlement. Omitted in 1887-88 report.
	Kódúr and Rájampet.	Seshachellam and Rollamadugu.	3,840	6	...	...	3,840	6	Collr.'s notice of 6th March 1884.	Left reserved land after settlement.
		Salivendra	...	...	6,400	...	6,400	10	...	Left reserved land after settlement. Omitted in 1887-88 report.
	Rájampet ...	Chitvel ... S	10,240	16	...	...	10,240	16	Collr.'s notice of 6th March 1884.	
		Ananthasamudram .	10,240	16	...	* 3,840	6,400	10	Collr.'s notice of 7th March 1885.	
		Sanipaya ghat ...	3,200	5	...	* 640	2,560	4		
		Badugantapalle S	3,520	5½	...	...	3,520	5½	Notfn. No. 304 of 24th July 1886.	
		Vattalúr Hill ...	...	...	320	...	320	½	...	Do.
	Rájampet and Ráyachóti.	Gadikota	3,538	6	...	...	3,538	6	Collr.'s notice of 6th March 1884.	Left reserved land after settlement.
		Yerrakonda S	8,320	13	...	...	8,320	13	Notfn. No. 304 of 24th July 1886.	
		Sibbyala	...	...	340	...	340	½	...	Left reserved land after settlement. Omitted in in 1887-88 report.
		Tsundupalle ...	...	...	1,480	...	1,480	2½		
	Sidhout, Rájampet and Ráyachóti.	Cheyer ... S	11,360	18	...	...	11,360	18	Notfn. No. 304 of 24th July 1886.	
	Rájampet and Sidhout.	Kanakalakonda S	6,400	10	...	...	6,400	10	Notfn. No. 54 of 14th March 1884.	
		Patur ... S	7,680	12	...	...	7,680	12		
		Kokaletikanama S	14,420	22½	...	...	14,420	22½	Notfn. No. 304 of 24th July 1886.	
		Kothur ... S	22,720	35½	...	...	22,720	35½		

* Rectification of area. † Transferred to Form 59-A.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Cuddapah—*cont.*	Sidhout ...	Malliamkonda ...	...	...	3,840	...	3,840	6	Collr.'s notice of 6th Dec. 1884.	Left reserved land after settlement. Omitted in 1887-88 report.
		Do. addition. S	1,280	2	...	...	1,280	2	Notfn. No. 306 of 24th July 1886.	
		Vontimitta ...	...	...	5,760	...	5,760	9	Notfn. No. 54 of 14th March 1884.	Wrongly shown as abandoned in 1887-88.
		Konarazupalle S	9,600	15	...	...	9,600	15	Do.	
		Turupukonda S	30,080	47	...	...	30,080	47	Notfn. No. 306 of 24th July 1886.	
		Ippakanama ...	1,600	2½	...	...	1,600	2½	Collr.'s notice of 7th March 1885.	
	Badvél and Sidhout.	Ramapuram S	7,680	12	...	...	7,680	12	Notfn. No. 54 of 14th March 1884.	
		Kavalakuntla ...	1,600	2½	...	...	1,600	2½	...	Left reserved land after settlement.
	Badvél ...	Gopavaram S	13,440	21	...	...	13,440	21	Do.	
		Kottakota ... S	38,400	60	...	...	38,400	60		
		Kalasapad ... S	6,400	10	...	...	6,400	10	Notfn. No. 306 of 24th July 1886.	
		Sancherla ... S	5,760	9	...	...	5,760	9		
		Tsallagirigulla ...	1,280	2	...	...	1,280	2	Collr.'s notice of 17th March 1885	
		Badvél	1,920	3	...	...	1,920	3		
		Ganugapenta ...	...	...	3,200	...	3,200	5	...	Left reserved land after settlement. Omitted in 1887-88 report.
	Cuddapah, Badvél and Sidhout.	Lankamalai S	112,640	176	...	...	112,640	176	Notfn No. 54 of 14th March 1884.	
	Cuddapah and Sidhout.	Kanamalapalle ...	5,255	8	...	...	5,255	8	...	Left reserved land after settlement.
	Badvél and Proddutur.	Dasaripalle S	66,560	104	...	...	66,560	104	Notfn. No. 54 of 14th March 1884.	
	Cuddapah ...	Kaucholamoram S	8,960	14	...	...	8,960	14		
		Ganganapalle S	57,600	90	...	...	57,600	90	Collr.'s notice of 3rd March 1885.	Of this 32 sq. miles are proposed Reserved Forest.
		Chelakampalle ...	9,600	15	...	*3,200	6,400	10		
		Kommaddi S	1,600	2½	...	...	1,600	2½		
		Tummalur S	3,200	5	...	...	3,200	5		
		Gonamakalapalle S	1,280	2	...	...	1,280	2		
	Proddutur and Pulivendla.	Bhanakotamala S	13,600	20	...	...	13,600	20		
		Mallela ... S	5,120	8	...	...	5,120	8		
		Kondasankesula S	4,480	7	...	...	4,480	7		
		Dabbudapalle S	3,280	5	...	...	3,280	5		
		Dhodiyam ... S	2,720	4	...	...	2,720	4	Notfn. No. 304 of 24th July 1886.	
		Malamidikamba-ladinne. S	3,440	5	...	...	3,440	5		
	Proddutur ...	Penner ... S	640	1	...	...	640	1		
		Gandikota ... S	9,920	15½	...	...	9,920	15½		
		Yamavaram S	1,600	2½	...	...	1,600	2½		
		Kosinepalle S	7,040	11	...	...	7,040	11		
		Nidijuvvi ... S	2,880	4½	...	...	2,880	4½		
		Kondapuram S	3,840	6	...	...	3,840	6		
	Cuddapah and Rayachóti.	Idupalapaya S	28,160	44	...	...	28,160	44	Notfn. of 11th June 1883.	
		Redlacheruvu S	5,120	8	...	...	5,120	8	Notfn. No. 304 of 24th July 1886.	
	Cuddapah and Sidhout.	Palkonda ... S	81,920	128	...	...	81,920	128	Notfn. of 11th June 1883.	
	Rayachóti ...	Madhavaram S	5,900	9½	...	...	5,900	9½	Notfn. No. 54 of 14th March 1884.	
		Vandadi hills S	3,400	5½	...	...	3,400	5½		
		Brahmanayerragudi	7,680	12	...	*1,920	5,760	9	Collr.'s notice of 7th March 1885.	
		Hassanapuram ...	23,040	36	...	*10,880	12,160	19		

* Rectification of area.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Cuddapah—*cont.*	Ráyachóti—*cont.*	Mudumpad slopes...	5,760	9	...	...	5,760	9	Notfn. No. 306 of 24th July 1886.	
		Wongimalla S	10,880	17	...	...	10,880	17		
	Ráyachóti and Váyalpád.	Urukonda	8,960	14	...	...	8,960	14		
		Rekkalakonda ...	6,400	10	...	...	6,400	10	Notfn. No. 54 of 14th March 1884.	
	Kadiri and Pulivendla.	Gorivikanama ...	28,800	45	...	...	28,800	45		
		Dorigallu	30,720	48	...	...	30,720	48		
		Ishwaramala ...	15,360	24	...	...	15,360	24	Do. do.	
		Kokanti	2,000	3	...	...	2,000	3		
		Kadiri	10,240	16	...	...	10,240	16		
		Vellicholamalla ...	3,200	5	...	...	3,200	5	Notfn. No. 305 of 24th July 1886.	
		Thirumaladevarakonda.	9,600	15	...	...	9,600	15	Notfn. No. 54 of 14th March 1884.	
		Nigadi	19,640	31	...	...	19,640	31	Notfn. No. 306 of 24th July 1886.	
	Kadiri ...	Kukkarazukonda ...	5,120	8	...	...	5,120	8	Notfn. No. 54 of 14th March 1884.	
		Tumala	25,600	40	...	...	25,600	40		
		Malakavemala ...	1,920	3	...	...	1,920	3		
		Tammalamala ...	6,400	10	...	...	6,400	10		
		Kondagamerla ...	3,200	5	...	...	3,200	5		
		Somarazumala, East	1,280	2	...	...	1,280	2		
		Goduvelagala ...	1,920	3	...	...	1,920	3	Notfn. No. 305 of 24th July 1886.	
		Mudupalajuvi ...	1,440	2	...	...	1,440	2		
	Madanapalle...	Tavalam	5,120	8	...	...	5,120	8	Notfn. No. 54 of 14th March 1884.	Avalakonda, Mudimadugu and Horsleykonda. Mallaiskonda and Yaddalavaripalle.
		Madhanikonda S	1,750	3	...	...	1,750	3		
		Pentzapad S	2,870	4½	...	...	2,870	4½		
		Horsleykonda ...	23,870	37½	...	...	23,870	37½		
		Mothugamala S	2,560	4	...	...	2,560	4		
		Mallaiakonda S	15,023	23½	...	...	15,023	23½		
		Nallakonda S	3,200	5	* 640	† 640	3,200	5		
		Pulikonda ... S	2,560	4	...	...	2,560	4	Notfn. No. 305 of 24th July 1886.	
		Potapolu ... S	364	1	...	...	364	1		
		Kukarazupalle S	1,660	3	...	...	1,660	3		
	Váyalpád and Madanapalle.	Tarikonda	6,400	10	...	...	6,400	10		
		Gutapaliem ...	2,560	4	...	...	2,560	4		
		Yellutla	4,840	7½	...	...	4,840	7½		Left reserved land after settlement.
		Gajjbuchikona ...	320	½	...	...	320	½	Notfn. No. 54 of 14th March 1884.	
		Yerramorallajedu...	3,680	5½	...	...	3,680	5½		
		Ankalammakonda..	2,800	4	...	...	2,800	4		
	Váyalpád ...	Nurukupalakonda...	8,320	13½	...	...	8,320	13½		
		Doddipalle ...	2,560	4	...	...	2,560	4	Notfn. No. 306 of 24th July 1886.	
		Sorakayalapeta ...	2,560	4	...	...	2,560	4		
		Peddamallela ..	3,200	5	...	...	3,200	5		
		Marella	7,680	12	...	...	7,680	12		
		Talakona	19,840	31	...	...	19,840	31		
		Bhakarapet ...	9,800	15	...	...	9,800	15		
		Total ...	1,070,510	1,672½	22,496	* 24,960 † 640	1,067,406	1,668		
Kurnool.	Sirvél and Nandyál.	Sirvél ... S	128,000	200	...	...	128,000	200	Notfn. of 21st April 1883.	
	Nandyál and Nandikótkur.	Nandyál ... S	192,000	300	...	...	192,000	300		
	Nandikótkur ...	Nandikótkur S	256,000	400	...	...	256,000	400		
	Cumbum ...	Uyyalavada S	448,000	700	...	...	448,000	700	Notfn. No. 198 of 17th Nov. 1883.	
	Cumbum and Márkápur.	Cumbum ... S								
	Márkápur ...	Márkápur ... S								
	Cumbum ...	Northern Veligondas S	19,200	30	...	...	19,200	30	Notfn. No. 199 of 17th Nov. 1883.	
		Southern do. S	19,200	30	...	...	19,200	30		
		Western do. S	10,880	17	...	...	10,880	17		

* Rectification of area. † Transferred to Form 59-A.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Kurnool—*cont.*	Yerramalais ...	Rámallakót S	2,000	3	...	...	2,000	3	Notfn. No. 74 of 6th Mar. 1888.	
		Lanjabanda ...	2,000	3	...	...	2,000	3		
		Yaipalapadu ...	3,500	5½	...	...	3,500	5½		
		Dhone	14,000	22	...	...	14,000	22		
		Gadithemadugu ...	3,000	5	...	...	3,000	5		
		Total ...	1,097,780	1,715½	...	...	1,097,780	1,715½		
Bellary.	Adóni ...	Ganekolu ... S	1,118	2	...	...	1,118	2	Notfn. No. 175 of 16th Sept. 1884.	
		Badenahalu S	792	1	*148	...	940	1		
		Katalam ... S	681	1	...	*23	658	1		
		Halekota ... S	486	1	...	*48	438	1		
		Sulekeri	1,342	2	...	...	1,342	2		
		Halevy ... S	1,145	2	*64	...	1,209	2		
		Nundavaram S	971	1½	...	*2	969	1½		
		Ráyachóti ... S	1,863	3	...	...	1,863	3		
		Kurimetla S	3,341	5	...	...	3,341	5		
		Bunivasi ... S	1,964	3	...	...	1,964	3		
		Kotokallu ... S	2,569	4	...	...	2,569	4		
		Adóni	5,000	8	...	...	5,000	8		
		Kupgul	4,650	7	...	...	4,650	7		
		Tungabhadra ...	4,633	7	...	...	4,633	7		
		Kosgi	2,970	5	...	...	2,970	5		
		Kudbur ... S	2,952	5	*4	...	2,956	5		
	Alúr	Gummanur S	649	1	...	...	649	1	Notfn. No. 65 of 20th Feb. 1888.	
		Chippigiri S	1,182	2	...	...	1,182	2	Notfn. No. 123 of 27th April 1888.	
		Degalahalu S	110	...	...	...	110	...		
		Yeruru ... S	535	1	...	*11	524	1		
		Timmapuram S	1,267	2	...	†1,046 *221	...	...		
	Bellary ...	Bellary ... S	8,000	12	...	...	8,000	12	Notfn. No. 51 of 12th March 1884.	
		Mincheri ... S	4,000	6	...	...	4,000	6		
		Kurrugodu ...	...	...	1,000	...	1,000	1½		
		Tekkalakota ...	...	...	600	...	600	1	Notfn. No. 163 of 10th June 1889.	
		Suguru	...	...	500	...	500	1		
		Nadivi	...	...	450	...	450	¾		
		Halekota ... S	...	...	640	...	640	1		
	Hospet ...	Gound	3,000	5	...	...	3,000	5	Notfn. No. 197 of 16th Nov. 1883.	
		Hospet	5,000	8	...	...	5,000	8		
		Jog	4,000	6	...	...	4,000	6		
		Oblagudi	1,000	1½	...	...	1,000	1½		
		Tornagul ... S	2,100	3	...	...	2,100	3	Notfn. No. 102 of 17th May 1884.	
	Kúdligi and Hospet.	Billokal	14,000	22	*80	...	14,080	22	Notfn. No. 22 of 21st Jan. 1889.	
		Buckasagar ...	8,000	12	...	*2,000	6,000	9		
		Baudri	7,000	11	...	...	7,000	11	Notfn. No. 197 of 16th Nov. 1883.	
	Kudligi ...	Chiribi ... S	3,000	5	...	...	3,000	5	Notfn. No. 174 of 13th Sept. 1884.	
		Gollalingammanahalli. S	1,000	1½	...	†1,000	...	...		
		Tumurgudi S	2,500	4	...	...	2,500	4	Notfn. No. 79 of 26th Mar. 1889.	
		Somalapur S	1,000	1½	*1,600	...	2,600	4		
		Sunkadakal ...	7,843	12½	...	...	7,843	12½		
		Shivpur ... S	9,000	14	...	...	9,000	14		
		Banavikal	3,000	5	...	...	3,000	5	Notfn. No. 79 of 26th Mar. 1889.	
		Nimblagiri ...	4,800	7½	...	...	4,800	7½		
		Gudekota	7,000	11	...	...	7,000	11		
	Hadgalli and Harpanhalli.	Harada	18,000	28	...	...	18,000	28	Notfn. of 14th Jan. 1885.	
		Sogay	4,200	6½	...	...	4,200	6½		
	Harpanhalli ...	Jitnakatta ...	12,646	20	...	...	12,646	20	Notfn. No. 116 of 20th April 1888.	
		Jangukalguíta ...	12,882	20	...	...	12,882	20		
		Alagilivada ...	1,956	3	...	...	1,956	3		
		Uchingidrug ...	4,291	7	...	...	4,291	7		
	Ráyadrug ...	Ráyadrug	6,000	9	...	...	6,000	9	Notfn. No. 150 of 21st May 1885.	
		Dharmapuri S	3,600	5½	...	...	3,600	5½		
		Argupa	1,000	1½	...	*50	950	1½		
		Boodikonda ...	1,000	1½	...	...	1,000	1½	Notfn. No. 157 of 8th June 1888.	
		Total ...	2,01,038	314	5,086	*2,355 †2,046	201,723	315		

* Rectification of area. † Transferred to Form 59-A.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Anantapur.	Gooty ...	Peddadoddi ...	3,200	5	...	...	3,200	5	Notfn. No. 203 of 20th May 1887.	
		Jakkalacheruvu ...	3,200	5	...	...	3,200	5		
		Pamidi	640	1	...	...	640	1		
		Nagasamudram ...	9,600	15	...	...	9,600	15		
		Cutturmulla ...	7,680	12	...	...	7,680	12		
		Bhadrampalle ...	2,560	4	...	...	2,560	4		
		Marutla	11,520	18	...	...	11,520	18		
		Tarramalla ...	8,960	14	...	...	8,960	14		
		Yadaki	5,120	8	...	...	5,120	8	Notfn. No. 134 of 28th Feb. 1887.	
		Guntakal	...	...	900	...	900	1½	Notfn. No. 252 of 13th Aug. 1889.	
		Muchukota S	6,400	10	...	...	6,400	10	Notfn. No. 191 of 6th Oct. 1884.	
	Muchukota ...	Durgam ... S	3,200	5	...	...	3,200	5	Notfn. No. 205 of 20th May 1887.	
		Kudair	4,480	7	...	...	4,480	7		
		Uparapalli S	640	1	...	...	640	1		
		Dadithota	1,920	3	...	...	1,920	3	Notfn. No. 134 of 28th Feb. 1887.	
		Yellutla	5,120	8	...	...	5,120	8		
		Chillawaripalle ...	3,840	6	...	...	3,840	6		
		Konakuntla ...	1,280	2	...	...	1,280	2		
		Nairjampallo ...	1,920	3	...	...	1,920	3		
		Yelanur	320	½	...	...	320	½		
		Gootoor ... S	6,400	10	...	...	6,400	10	Notfn. No. 166 of 8th May 1886.	
	Dharmavaram.	Kalyandrug S	960	1½	...	...	960	1½	Notfn. No. 8 of 22nd Dec. 1886.	
		Ramgherry ...	10,240	16	...	...	10,240	16		
		Bhadrapur S	3,200	5	...	...	3,200	5		
		Nyalakota S	7,680	12	...	...	7,680	12	Notfn. No. 166 of 8th May 1886.	
		Penukonda hill S	1,600	2½	...	...	1,600	2½		
		Somandapally S	10,240	16	...	...	10,240	16		
		Yerlampalle S	2,240	3½	...	...	2,240	3½		
	Penukonda ...	Mallappakonda S	5,120	8	...	...	5,120	8	Notfn. No. 166 of 8th May 1886.	
		Mallakavoimla-konda. S	960	1½	...	...	960	1½		
		Naradikonda S	2,560	4	...	...	2,560	4		
		Janavaripalle ...	3,200	5	...	...	3,200	5	Notfn. No. 74 of 26th Oct. 1888.	
		Agraharam ...	2,300	3½	...	...	2,300	3½		
		Venglamcheruvu.	2,880	4½	...	...	2,880	4½		
		Yerrakonda S	4,420	7	...	...	4,420	7	Notfn. No. 166 of 8th May 1886.	
		Amagondapalium S	16,360	25½	...	...	16,360	25½		
	Hindupur ...	Dokulkonda S	2,880	4½	...	...	2,880	4½		
		Kondur	400	⅝	...	...	400	⅝	Notfn. No. 232 of 8th Aug. 1888.	
		Gopidevarapalle S	1,020	3	...	...	1,020	3		
		Total ...	167,160	261	900	...	168,060	262½		
Nilgiris.	Ootacamund...	Fern Hill Shola S	10	...	...	...	10	...	Notfn. No. 428 of 8th Nov. 1886.	
		Addition to Fair-lawns block No. I. S	22	...	...	...	22	...		
		Addition to Dodda-betta block No. II. S	12	...	...	...	12	...		
		Addition to Doddahalla. S	10	...	...	...	10	...		
		Bilikal road S	25	...	...	...	25	...		
	Naduvatam ...	Devamalai S	229	½	...	...	229	½	Notfn. No. 54 of 24th May 1885.	
	Sigúr	Sigúr	41,127	64	...	...	41,127	64		
	Coonor ...	Honnathalai (South). S	218	½	...	...	218	½	Notfn. No. 166 of 20th April 1886.	
		Bettumund S	137	...	...	...	137	...		
		Rallia ... S	382	½	* 3	...	385	½		
		Little Rallia S	29	...	...	...	29	...		
		Rallia Shola S	30	...	...	...	30	...		
		Halakaray S	172	½	...	...	172	½		
		Teppakuchi S	119	½	...	...	119	½		
		Billithittu ... S	35	...	...	...	35	...		
		Dolphin ... S	65	...	...	...	65	...		
		Guernsey ... S	14	...	...	...	14	...		
		Kodámálai S	15	...	...	...	15	...		
	Kótagiri ...	Naduhatti S	509	1	...	* 33	476	1		
		St. Catharine's Fall S	124	½	...	...	124	½		
		Constantia S	35	...	...	...	35	...		
		Tuttapolliam S	54	...	...	...	54	...		
		Gudakalhalla S	299	½	...	...	299	½		

* Rectification of area.

Area of Reserved Lands, 1889-90—*cont.*

District.	Range.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and date of notification of addition or transfer.	Remarks.
Nílgiris—*cont.*	Kótágiri—*cont.*	Bettu Nos. 1 and 2 S	29	...	...	...	29	...	Notfn. No. 168 of 20th April 1886.	
		Kunnavara addition. S	97	...	...	...	97	...		
		Kanavatti ... S	16	...	...	...	16	...		
		Deopdale ... S	361	½	...	...	361	½		
		Gudakal ... S	600	1	...	...	600	1		
		Clyffe ... S	33	...	...	...	33	...		
		Yercaudhalla S	20	...	...	...	20	...		
		Konakarai slopes S	1,864	3	...	...	1,864	3		
		Doddabetta S	105	...	...	...	105	...		
		Shamrock ... S	43	...	...	...	43	...		
		Bikkehatti S	19	...	...	...	19	...		
		Ittakal, Nos. 1 and 2. S	21	...	...	...	21	...		
		Mavada ... S	211	½	...	...	211	½		
		Kuttada, Nos. 1 and 2. S	29	...	...	...	29	...		
		Vagapanai ... S	2,648	4	...	...	2,648	4		
		Denad ... S	2,073	3	...	...	2,073	3		
		Sundatti ... S	124	½	...	...	124	½		
		Kunshola ... S	159	1	...	...	159	1		
		Kirkanara, Nos. 1 and 2. S	24	...	...	...	24	...		
		Kellatti ... S	17	...	...	...	17	...		
		Hadumund S	48	...	...	...	48	...		
		Uppatti ... S	53	...	...	...	53	...		
		Doddakavu ... S	62	...	...	...	62	...		
		Ullavanad shola S	57	...	...	...	57	...		
		Sinnattu shola S	51	...	...	...	51	...		
		Madanad ... S	723	1	...	...	723	1		
		Kodanad Valley S	294	½	...	...	294	½		
		Nadukaduhalla S	908	1½	...	* 23	885	1½		
		Nedugula ... S	89	½	...	...	89	½		
		Longwood additions. S	31	...	...	...	31	...		
	Kullár ...	Kullár additions S	72	...	...	...	72	...		
		Benhope, No. 2 S	34	...	...	...	34	...		
		Jakanare slopes S	6,419	10	...	...	6,419	10		
		Kallúr ... S	388	½	...	...	388	½		
		Total ...	61,394	96	* 3	* 56	61,341	96		
		Grand Total ...	4,110,154	6,424	353,320	{ * 69,011 † 123,673 }	4,269,690	6,671		

Abstract.

District.	Area on 1st April 1889. Sq. M.	Added during the year. Sq. M.	Excluded or transferred to other heads. Sq. M.	Area on 31st March 1890. Sq. M.
Ganjam	527	...	...	527
Visagapatam ...	...	10½	...	10½
Godávari	704	354	† 92½	917
		...	* 48½	
Kistna	641	26	† 50	616
		* 1	* 2	
Nellore	493	* 115½	† 48½	543½
		...	* 16½	
Cuddapah	1,672½	* 35½	† 1	1,668
		...	* 39	
Kurnool	1,715½	...	...	1,715½
Bellary	314	5	† 3	315
		* 2½	* 3½	
Anantapur	261	1½	...	262½
Nílgiris	96	...	...	96
Total ...	6,424	397	† 195	6,671
		* 154½	* 109½	

* Rectification of area. † Transferred to Form 59-A.

Annual Form No. 59-D.

Forest Department, Madras, Northern Circle.

Area of Leased Forests, 1889-90.

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Bellary ...	Sandúr ...	Sandúr ...	40,000	62½	...	...	40,000	62½	...	
Nílgiris ...	Mudumalai ...	Mudumalai ...	46,639	73	...	...	46,639	73		
		Total ...	86,639	135½	...	...	86,639	135½		

Annual Form No. 59-E.

Forest Department, Madras, Northern Circle.

Area of Reserved Forests under other orders, 1889-90.

District.	Range.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and date of notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Vizagapatam.	Pálkonda ...	Rupayi ...	300	½	...	...	300	½	Collector's order, dated 1st Aug. 1888.	
		Donabayi ...	20	...	...	...	20	...		
		Mekava ...	1,500	2½	...	...	1,500	2½		
		Yegalada ...	250	½	...	...	250	½		
		Kusumuru ...	3,500	5½	...	...	3,500	5½		
		Gumpayi ...	1,500	2½	...	...	1,500	2½		
		Barna ...	4,500	7	...	...	4,500	7		
		Antikonda ...	3,000	4½	...	...	3,000	4½		
		Samaralli ...	20	...	...	...	20	...		
		Sumbakonda ...	10	...	...	...	10	...		
		Total ...	14,600	23	...	...	14,600	23		

Annual Form No. 60.

Forest Department, Madras, Northern Circle.

Area of Plantations, 1889-90.

District.	Range.	Name of Plantation.	On 1st April 1889.		Added during 1889-90.		On 31st March 1890.		Remarks.
			Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
			Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	
Godávari.	Naraápur ...	Rustambadu ...	24	4,197	9	310	59	4,507	1866-67.
		Sitarampuram ...	26						
	Amalápuram.	Bendamurlanka (old).	27	2,014	13	338	60	3,742	1875-76.
		Do. (new).	20	1,390					1882-83.
		Total ...	97	7,601	22	648	119	8,249	
Kistna.	Bandar ...	Kara	14	387	...	4	14	391	
		Weld	75	4,116	...	543	75	4,659	1885.
		Kódúr	40	335	...	48	40	383	
		Gopavanipalem ...	35	1,092	10	297	45	1,389	
		Kanukolu	147	2,236	8	599	155	2,835	
		Allinagaram ...	126	879	...	75	126	954	
		Bommirampadu ...	26	407	...	48	26	455	
		Vamavarampadu ...	16	273	...	...	16	273	
		Vanudhuru ...	26	451	...	52	26	503	
	Bezvúda ...	Gavuravaram ...	30	351	...	58	30	409	
	Bápatla ...	Bápatla	17	584	1	87	18	671	
		Karlapalem ...	79	4,221	— 7*	— 168	72	4,018	* Cleared.
						— 371*			
		Vodhullapallo ...	13	467	...	...	13	467	
		Wardarevu ...	72	3,727	...	104	72	3,831	
		Nayanapalli ...	12	1,256	2	84	14	1,340	
		Pandhillapalli ...	14	594	1	84	15	678	
		Total ...	742	21,376	22	2,251	757	23,256	
					— 7	— 371			
Nellore.	Casuarina Plantation.	Dugaráspatam ...	565	40,889	70	1,411	635	42,300	1873.
		Kothapatnam ...	485	31,446	30	1,036	515	32,482	
		Tamminapatam ...	519	44,399	...	729	519	45,128	1873.
		Utukúr	180	16,182	...	44	180	16,226	1875.
		Varani	292	34,780	...	66	292	34,846	1874.
	Kávali ...	Tummalapenta ...	100	18,787	...	60	100	18,847	1873.
		Ramapatam ...	60	19,620	...	60	60	19,680	
		Kothapatam ...	146	14,766	...	48	146	14,814	
		Kanuparthi ...	250	16,598	...	48	250	16,646	1873.
	Srúharikót ...	Chandrasikuppam.	10	718	...	4	10	722	
	Atmakúr ...	Mamudur	9	1,434	...	...	9	1,434	
		Total ...	2,616	2,39,619	100	3,506	2,716	2,43,125	
Cuddapah.	Kódúr ...	Kódúr	37	7,162	...	72	37	7,234	1865.
		Uparapalle ...	108	8,474	...	71	108	8,545	1869.
		Reddipalle ...	925	13,381	...	479	925	13,860	1870.
		Arimanibanda ...	4	846	...	57	4	903	1884.
		Pullagundlamadugu	55	290	...	...	55	290	1887.
	Rájampet ...	Pullampet ...	426	8,230	...	124	426	8,354	1871.

Area of Plantations, 1889-90—*cont.*

District.	Range.	Name of Plantation.	On 1st April 1889.		Added during 1889-90.		On 31st March 1890.		Remarks.
			Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
			ACS.	RS.	ACS.	RS.	ACS.	RS.	
Cuddapah —*cont.*	Cuddapah ...	Kamalápuram ...	454	10,793	...	131	454	10,924	1869.
		Rámesvaram ...	...	...	91	35	91	35	
		Total ...	2,009	40,176	91	969	2,100	50,145	
Nilgiris.	Mudumalai ...	Mudumalai ...	61	16,834	...	157	61	16,991	
	Ootacamund ...	Benne	40	11,299	...	...	40	11,299	
		Chemengnli ...	33	3,861	...	...	33	3,861	1870.
		Mutkanád	96	6,713	...	...	96	6,713	1880-83.
		Brooklands ...	10	328	...	...	10	328	1862.
		Marliamund ...	11	833	...	...	11	833	1860.
		Snowdon	7	222	...	1	7	223	1860.
		Governor's shola ...	277	10,625	...	45	277	10,670	1880.
		Aramby	233	15,222	11¼	887	244¼	16,109	1863.
		Cairn Hill	168½	13,342	9¾	744	178¼	14,086	1877.
	Melúr	Devashola ...	14	1,640	...	...	14	1,640	1880.
	Coonoor ...	Blackbridge ...	56	1,921	...	...	56	1,921	1874.
		Bleakhouse ...	87	2,344	...	5	87	2,349	1857.
		Bandy shola ...	94	2,468	...	7	94	2,475	1857.
		Coonoor Peak ...	234½	7,351	3	302	237½	7,653	1872.
		Tippakutchi ...	35	783	...	...	35	783	1882.
		Rallia	105	2,588	23	829	128	3,417	1872.
	Kullar ...	Kullar	119½	4,342	100	1,171	219½	5,513	1886.
		Municipal assessment.	...	1,752	...	2,359	...	4,111	
		Total ...	1,680½	1,04,468	147¼	6,507	1,827¾	1,10,975	

CULTURAL OPERATIONS.

Ganjam.	Chokapad	Miscellaneous items.	...	103	...	660	...	763	
		Total ...	...	103	...	660	...	763	
Kistna.	Bezváda ...	Bezváda	...	153	...	93	...	246	
		Kondapalli nursery	...	...	...	43	...	43	
	Palnád ...	Tummurukodu ...	...	...	...	60	...	60	
		Total ...	...	153	...	196	...	349	
Nellore.	Kávali ...	.....	50	324	...	...	50	324	Miscellaneous sowings in forest and among prickly-pear.
	Srîharikót ...	Srîharikót ...	110	1,525	150	33	260	1,558	Sowing and planting of blanks.
		Do. ...	...	...	10	136	10	136	Transplanting from nurseries to the jungle and watering, &c.
	Nellore ...	Kasuba	...	...	150	71	150	71	Dates.
		Allipuram ...	...	...	40	367	40	367	
	Casuarina Plantation.	Dugarázpatam ...	...	...	12	10	12	10	Sowing and planting of blanks.
		Kottapatam ...	...	...	9	9	9	9	
		Tamminapatam ...	...	...	14	22	14	22	
		Total ...	160	1,849	385	648	545	2,497	
Cuddapah.	Kódúr ...	Ballipalle ...	2	1,165	...	195	2	1,360	Nursery.
		Do. Working Circle Compartment 5-B.	12	9	...	...	12	9	
		Do. do. 6-B.	30	319	...	5	30	324	Sowing 200 yegi seedlings.
		Sandakona ...	5	175	...	42	5	217	Watering and filling blanks.
	Cuddapah ...	Appaiapalle ...	25¼	29	...	...	25¼	29	

Area of Plantations, 1889-90—*cont.*

District.	Range.	Name of Plantation.	On 1st April 1889.		Added during 1889-90.		On 31st March 1890.		Remarks.
			Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
			ACS.	Rs.	ACS.	Rs.	ACS.	Rs.	
Cuddapah—*cont.*	Proddutur ...	Gandikota ...	321	18	...	...	321	18	
		Penner banks ...	160	199	...	...	160	199	
	Madanapalle	Horsleykonda ...	1	39	...	32	1	71	Nursery.
		Do. ...	1½	37	...	32	1½	69	
	Vayalpád ...	Ankalammakonda.	22	61	...	...	22	61	
		Nurukupalakonda.	5	41	...	...	5	41	
		Madhanikonda ...	...	...	½	2	½	2	Sowing sandalwood seedlings.
		Total ...	584½	2,092	½	308	585	2,400	
Kurnool.	Nandyál ..	Nandyál	...	57	...	17	...	74	Nursery for Eucalyptus.
	Nandikótkur	Miscellaneous items.	...	4	...	4	...	8	Date, &c.
		Total ...	...	61	...	21	...	82	
Bellary.	Sandúr ...	Ramandrug ...	...	108	...	46	...	154	
		Hampi	...	20	...	− 20	...	...	Abandoned.
	Kudligi ...	Kúdligi	...,	...	...	3	...	3	
		Gullapalli	...	...	...	27	...	27	
		Miscellaneous ...	...	75	...	140	...	215	Sowing bamboo seeds.
		Total ...	...	203	...	216 − 20	...	399	
Nilgiris.	Ootacamund ...	Lovedale	2½	1,082	5½	406	8	1,488	
	Coonoor ...	Ghát reserve ...	12	406	2	39	14	505	
		Lamb's rock ...	2	25	...	...	2	25	
		Sim's Park ...	6	2,024	3	367	9	2,391	
	Kótagiri ...	Longwood ...	7	329	1½	80	8½	409	
		Miscellaneous items.	...	657	...	...	...	657	
		Total ...	29½	4,583	12	892	41½	5,475	
		Total Plantations...	7,144½	4,22,240	382½ − 7	13,881 − 371	7,519½	4,35,750	
		Total Cultural Operations.	774	9,044	397½	2,941 − 20	1,171½	11,965	
		Add Topes ...	6,865	1,11,572	+ 41 − 51	2,125 − 1,936	6,855	1,11,761	
		Add Direction ...	...	50	...	98	...	148	
		Grand Total A-VIII d ...	14,783½	5,42,906	820½ − 58	19,045 − 2,327	15,540½	5,59,624	

Abstract of Form No. 60.

District.	On 1st April 1889.		Added during 1889-90.		On 31st March 1890.	
	Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.
	Regular Plantations.					
	ACS.	Rs.	ACS.	Rs.	ACS.	Rs.
Godávari	97	7,601	22	648	119	8,249
Kistna	742	21,376	22 − 7	22,51 −371	757	23,256
Nellore	2,616	2,39,619	100	3,506	2,716	2,43,125
Cuddapah	2,009	49,176	91	969	2,100	50,145
Nilgiris	1,680½	1,04,468	147½	6,507	1,827½	1,10,975
Direction	...	50	...	98	...	148
Total ...	7,144½	4,22,290	382½ −7	13,979 −371	7,519½	4,35,898
	Cultural Operations.					
Ganjam	...	103	...	660	...	763
Kistna	...	153	...	136	...	349
Nellore	160	1,849	385	648	545	2,497
Cuddapah	584½	2,092	½	308	585	2,400
Kurnool	...	61	...	21	...	82
Bellary	...	203	...	216 −20	...	399
Nilgiris	29½	4,583	12	892	41½	5,475
Total ...	774	9,044	397½	2,941 −20	1,171½	11,965

Annual Form No. 61.

Forest Department, Madras, Northern Circle.

Annual Statement of Topes, 1889-90.

District.	Taluk.	Number of topes.	Area.	Cost		Remarks.
				During year.	To end of year.	
			Acs.	Rs.	Rs.	
Ganjam ...	Berhampore	3	13	...		
	Goomsur	1	83	...	922	
	Chicacole	3	5	...		
	Total ...	7	101	...	922	
Vizagapatam ...	Pálkonda	2	56	6	14	
	Total ...	2	56	6	14	
Godávari	Rámachandrapuram ...	−8	−30	...	...	8 topes of this district have been omitted as they have been transferred to the head of Porambóke and are no longer under the management of the Department.
	Total ...	−8	−30	...	..	
Kistna	Bandar	2 +1	9 +17	58	762	1 tope of 17 acres omitted during 1888-89 is now included.
	Gudiváda	−1	− 5	...	− 281	Sold.
	Bezváda	−1	− 4	...	− 238	No topes exist in this taluk.
	Nandigáma	1	11	35	377	
	Vinukonda	1	6	48	353	
	Narsaraopet	1	7	48	322	
	Sattenapalle	−1	− 6	...	− 15	Sold.
	Bápatla	−1	− 2	...	− 1,298	
	Repalle	−1	− 1	...		
	Guntúr	−1	− 3	...	− 104	No topes exist in these taluks.
	Total ...	6 −6	50 −21	189	1,814 −1,936	
Nellore	Gúdúr	11	124	...	3,206	
	Rápúr	15	183	...	8,533	
	Nellore	33	380	...	6,599	
	Atmakúr	3	12	...	4,420	
	Venkatagiri	9	130	...	2,793	
	Kávali	17	742	...	4,190	
	Udayagiri	4	29	...	2,665	
	Kandukúr	6	13	...	1,853	
	Kanigiri	5	19	...	1,408	
	Ongole	4	107	...	1,212	
	Podili	4	13	...	1,165	
	Total ...	111	1,752	...	38,044	
Cuddapah	Pullampet	8 + 1	69 + 24	115	5,805	* One old Jungle Conservancy Tope of 24 acres omitted during the past years is now added, the original cost of which is not known.
	Sidhout	4	40	39	8,183	
	Badvél	6	63	60	2,944	
	Proddutur	2	32	...	1,715	
	Jammalamadugu	9	309	54	12,554	
	Pulivendla	10	638	119	5,158	
	Cuddapah	7	148	60	6,163	
	Kadiri	8	73	132	2,318	
	Madanapalle	8	68	99	6,653	
	Ráyachóti	5	95	65	1,712	
	Váyalpád	3	30	...	3,442	
	Total ...	71	1,589	743	56,647	
Kurnool	Rámallakót	7	66	...	839	
	Pattikonda	5	29	...	1,879	
	Koilkuntla	4	9	...	3,683	
	Nandikótkur	1	2	45	406	
	Nandyál	3	33	98	1,331	
	Sirvél	2	16	114	684	
	Cumbum	2	13	...	22	
	Márkápur	3	14	...	257	
	Total ...	27	182	257	9,101	

Annual Statement of Topes—*cont.*

District.	Taluk	Number of topes	Area	Cost		Remarks.
				During year	To end of year.	
			ACS	Rs.	Rs	
Bellary	Bellary	6	86	..	...	
	Kúdligi	4	9		...	
	Hadgalli	2	11	...	41	
	Harpanahalli	2	3	..	..	
	Alúr	11	101		88	
	Adóni	2	13	46	372	
	Ráyadrug	4	17	85	359	
	Total ...	31	240	131	860	
Anantapur ...	Anantapur	5	124	191	507	
	Gooty	10	184	103	276	
	Tadpatri	15	565	52	228	
	Dharmavaram	29	1,555	182	2,562	
	Hindupur	16	121	53	259	
	Penukonda ...	15	310	166	382	
	Madakasira	5	26	52	150	
	Total .	95	2,885	799	4,359	
	Grand Total ...	350*	6,855	2,125 −1,936	1,11,761	

* The decrease of 12 topes in number and 10 acres in area is explained above.

Abstract.

District	Number	Area	Cost	
			During year	To end of year.
		ACS.	Rs	Rs
Ganjam	7	101	.	922
Vizagapatam	2	56	6	14
Godávari	...	...	...	...
Kistna	6	50	189	1,814
Nellore	111	1,752		38,044
Cuddapah	71	1,589	743	56,647
Kurnool	27	182	257	9,101
Bellary	31	240	131	860
Anantapur	95	2,885	799	4,359
Total ..	350	6,855	2,125	1,11,761

ANNUAL FORM No. 62.

Forest Department, Madras, Northern Circle.

Area of Forest Tracts protected from Fire during 1889-90.

District and Range.	Forest Tract.	Up to 31st March 1889		During dry season of 1889-90				Total cost up to 31st March 1890	Year when protection commenced	Remarks
		Area actually protected.	Total cost	Area attempted to be protected	Area burnt	Area actually protected	Amount expended			
		ACS	RS	ACS.	ACS	ACS.	RS	RS		
Ganjam ... Chokapád	Dimrijholi	5,464	14	5,480	...	5,480	13	27	1889	
	Rambha	9,300	26	9,300	...	9,300	30	56		
	Darpangia	16,110	401	16,160	..	16,160	15	416	1885	
	Baibali ..	21,840	663	21,920	..	21,920	35	698		
	Gullery ...	23,787	24	23,860	.	23,860	28	52		
	Koolada ..	2,706	14	2,760	..	2,760	193	207		
Bodoboro-singhi	Teleki	15,130	22	15,200	.	15,200	30	52		
	Kalsamba	5,180	23	5,200	..	5,200	26	49		
	Rogoda ..	15,986	22	16,000	...	16,000	15	37		
	Vinjaghera .	5,995	12	6,000	.	6,000	7	19	1889	
	Malati ..	1,720	28	1,720		1,720	7	35		
Pondokol ...	Hukuma ..	4,155	10	4,160	16	4,144	10	20		
	Rayigoda	6,692	10	6,700	51	6,649	10	20		
	Bondagocha ..	4,390	7	4,400	20	4,380	10	17		
	Pipulapauka	7,697	10	7,700	25	7,675	60	70		
	Dhougam .	2,391	10	2,400	...	2,400	5	15		
	Dabuki	...	...	1,450	..	1,450	...	.	1890	
	Moondapitta ...	6,880	10	6,880	...	6,880	10	20	1889	
Gayagonda ...	Ambazara ..	23,979	688	32,000	6,788	25,212	137	825	1885	
	Chondorgiri .	13,300	470	19,280	3,386	15,894	104	574		
	Gundribadi	...	...	12,200	133	12,067	...	..	1890	
	Gogodo	..	.	15,240	900	14,340	..	...		
Jagannath-prasad.	Jagannathprasád	24,190	43	26,200	1,920	24,280	32	75		
	Paichalia ...	11,777	15	13,760	1,960	11,800	12	27		
	Brahmanosai ...	7,068	15	8,080	1,126	6,954	5	20		
Buguda ...	Vishnuchakram	4,590	7	4,860	264	4,596	10	17	1889	
	Panchabuthi	3,860	10	4,320	500	3,820	..	10		
	Kurcholi	4,890	10	5,520	560	4,960	15	25		
	Kriyamba .	22,266	19	23,320	1,121	22,199	30	49		
	Sandusalya	2,000	5	2,000	..	2,000	...	5		
	Bodochendana	800	5	800	..	800	...	5		
Berhampore	Ramagodo	6,620	161	6,620	...	6,620	25	186	1885	
	Bainamari	3,750	156	3,750	.	3,750	19	175		
	South Mohiri	3,730	312	3,730	..	3,730	23	335		
	Mohiri Unreserve	3,930	131	..	..		...	131		
	Podhora ..	...		760	...	760	9	9	1890	
	Total ...	292,182	3,353	339,730	18,770	320,960	925	4,278		
Vizagapatam Sarvasiddhi ...	Peddapalli ...	8,930	...	8,960	...	8,960	64	64	1889	
Palkonda .	Pálkonda .	...	...	14,600	40	14,560	161	161		
	Total ..	8,930		23,560	40	23,520	225	225		
Godávari ... Bhadráchalam	Dumagudem	4,190	5	6,110	...	6,110	37	42	1887	
	Arlagudem ..	4 216	5	6,136	.	6,136	36	41		
	Gogubaka	1,346	3	1,666	...	1,666	36	39	1888	
Marrigudem	Rapak ...	.	9	7,000	160	6,840	8	17	1887	
	Ramchandram	8,380	9	10,300	..	10,300	8	17		
	Tatlunka ..	9,440	...	12,000	...	12,000	8	8		
Rékapalle ...	Mattapalli		..	9,500	...	9,500	...	..	1889	
Rajahmundry	Kothapalli ...	17,980	106	18,000	300	17,700	33	139	1887	
	Devancheruvu ..	2,330	74	2,330	...	2,330	30	104		
	Ramasaram ...	1,250	14	1,250	...	1,250	30	44	1888	
	Kovida ..	1,280	6	1,280	...	1,280	30	36		
	Murari ...	900	6	900	.	900	30	36	1889	
	Totapalle .	..	...	3,994	...	3,994	30	30		

Area of Forest Tracts protected from Fire during 1889-90—*cont.*

District and Range.	Forest Tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Area burnt.	Area actually protected.	Amount expended.			
		Acs.	Rs.	Acs.	Acs.	Acs.	Rs.	Rs.		
Godávari—*cont.* — Ellore	Velagalapalle	2,200	16	2,200	..	2,200	16	32	1888	
	Chintalapudi	1,100	16	1,100	...	1,100	16	32		
	Barrikonda	2,550	32	2,700	...	2,700	16	48		
	Erraguntapalli	9,400	31	9,600	...	9,600	16	47		
	Bandamcherla	5,200	32	5,200	...	5,200	16	48		
	Ramasingavaram	1,920	16	1,920	...	1,920	16	32		
	Tadikalapudi	2,560	16	2,560	...	2,560	16	32		
	Jilugumille	...	...	3,300	...	3,300	16	16	1889	
	Beddadavole	...	...	15,000	...	15,000	16	16		
	Marlagudem	...	...	2,700	...	2,700	16	16		
	Total	76,242	396	126,746	460	126,286	476	872		
Kistna — Bezváda	Kondapalle	8,320	2,307	8,320	1,000	7,320	427	2,794	1884	
Vinukonda	Kothur	...	...	7,593	11	7,582	13	13	1889	
	Bollapalli	6,340	895	6,400	...	6,400	135	1,030	1885	
	Guttikonda	...	...	42,241	2	42,239	2	2	1889	
Pálnad	Mutukur	6,400	256	6,400	...	6,400	58	314	1885	
	Madinapadu	9,600	380	9,600	...	9,600	58	438	1885	
Guntúr	Kondavid	13,158	8	13,156	12	13,144	12	20	1888	
	Tadepalli	...	...	2,300	...	2,300	2	2	1889	
Bandar	Kanukollu	...	...	667	10	657	8	8		
Krosur	Bellamkonda	...	...	1,380	...	1,380	7	7		
	Total	43,813	3,906	98,057	1,035	97,022	722	4,628		
Nellore — Rápúr	Rápúr Veligondas	24,100	437	27,000	3,280	23,720	296	733	1885	
Udayagiri	Udayagiri do.	21,500	1,007	23,000	3,440	19,560	502	1,509		
Kanigiri	Kanigiri do.	22,900	...	25,000	...	25,000	138	138		
	Total	68,500	1,444	75,000	6,720	68,280	936	2,380		
Cuddapah — Kódúr	Ballipalle (West)	6,307	2,166	6,307	...	6,307	193	2,359	1867	
	Do. (East)	8,929	2,438	8,900	140	8,820	308	2,746	1871	
	Kódúr Hill	6,540	1,773	7,440	240	7,200	303	2,076	1874	
	Vagetikona	3,594	704	3,595	...	3,595	73	777		
	Yerraguntlakota	3,000	1,362	3,000	1,655	1,345	127	1,489	1873	
	Rallakonda	1,565	530	1,565	...	1,565	60	590	1879	
	Gathela	6,798	858	6,800	6,800	...	71	929	1874	
	Thanakonda	1,048	528	1,048	...	1,048	60	588		
Rájampet	Rollamadugu	5,424	362	5,424	5,424	...	...	362	1878	
	Srirangarazupaliem	3,080	1,193	5,000	80	4,920	69	1,262	1883	
	Vattalúr Hill	2,880	256	2,880	...	2,880	106	362	1887	
Kadiri	Nigadi	14,000	918	14,000	1,200	12,800	91	1,009	1881	
	Malakavemala	8,500	439	8,500	...	8,500	...	439		
	Kondagamerla	3,700	231	3,700	...	3,700	10	241		
	Tumala	2,495	263	2,495	...	2,495	31	294		
	Kokanti	2,000	211	2,000	100	1,900	10	221		
	Gorivikanama	18,000	209	...	...	...	...	209		
	Rekkulakonda	1,200	193	1,200	...	1,200	1	194		
	Mallaiakonda	2,200	229	2,200	...	2,200	43	272		
Madanapalle	Kosuvaripalle	1,400	152	1,400	...	1,400	...	152		
	Sompalle	800	98	...	..	...	...	98		
	Horsleykonda	9,630	688	9,630	...	9,630	105	793		
	Yellutla	3,500	253	3,500	...	3,500	28	281		
	Nadimicherla	2,000	219	2,000	...	2,000	...	219		
Váyalpád	Nurukupalakonda	3,600	459	3,600	...	3,600	42	501		
	Ankalammakonda	2,000	432	2,000	...	2,000	41	473		
	Gorantlapalle	4,000	222	4,000	...	4,000	...	222		
Cuddapah	Mamillapalle	5,000	1,208	5,000	3,120	1,880	271	1,479	1883	
Cuddapah and Ráyachóti	Guvalacheruvu	5,500	1,039	7,600	...	7,600	268	1,307	1888	
Ráyachóti	Gadikota	12,309	1,025	12,480	2,132	10,348	228	1,258	1883	
	Sibyala	3,500	93	3,500	...	3,500	43	136	1887	
	Tsundupalle	3,000	49	3,000	...	3,000	25	74		
Sidhout	Arapayakanama	8,220	1,236	10,000	5,760	4,240	184	1,420	1883	
	Kanamalopalle	1,935	847	4,435	3,120	1,315	208	1,055	1887	
Badvél	Kottakota	8,640	761	8,640	...	8,640	182	943	1885	

Area of Forest Tracts protected from Fire during 1889-90—*cont.*

District and Range.	Forest Tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Year when protection commenced.	Remarks.
		Area actually protected.	Total cost.	Area attempted to be protected.	Area burnt.	Area actually protected.	Amount expended.			
		Acs.	Rs.	Acs.	Acs.	Acs.	Rs.	Rs.		
Cuddapah—*cont.* — Proddatur	Mudireddipalle	10,059	930	12,000	660	11,340	91	1,021	1883	
	Rámesvaram	91	29	...	...	...	...	29		
	Thallamapuram	153	34	...	...	...	...	34		
	Vellela	258	34	...	...	...	...	34		
	Alladupalle	197	33	...	...	...	...	33		
	Payalala	99	19	...	...	...	...	19		
	Nidujubi	696	110	696	...	696	27	137		
	Kottapalle	120	19	...	...	...	...	19		
	Kalamella / Kosinepalle	730	160	430 / 300	... / ...	430 / 300	... / 16	176		
	Modanattupalle	86	18	...	...	...	...	18		
	Anantapuram	138	19	...	...	...	...	19		
	Kallúr	160	17	...	...	...	...	17	1881	
	Kondasankesula	858	110	858	...	858	12	122		
	Gandikota	372	93	372	300	72	...	93		
	Yamavaram	200	91	200	200	...	19	110		
	Dhodiom / Murupandi	1,345	117	589 / 756	... / ...	589 / 756	7	124		
	Malamidikambaladinne. / Kódúr — Jammalamadugu.	1,366	156	787 / 579	... / ...	787 / 579	3	159		
	Aravetipalle / Denepalle / Peddadudiala	850	116	200 / 250 / 300	... / ... / ...	200 / 250 / 300	12	128		
	Seshachellam	...	...	176,200	7,281	168,919	1,111	1,111		
	Lakamalais	...	...	112,640	13,630	99,010	694	694		
	Pálkonda	...	...	1,000	60	940	26	26	1890	
	Urukonda	...	...	8,960	...	8,960	1	1		
	General	...	...	...	...	...	14	14		
	Total	194,072	25,749	484,016	51,902	432,114	5,214	30,963		
Kurnool — Atmakúr	Atmakúr-Velgode	...	2,480	...	...	...	...	2,480	1884	
Nandikótkur	Bairluti	500	713	4,000	1,280	2,720	250	963	1887	
Nandyál	Mallalamma	1,800	122	3,000	1,140	1,860	160	282		
Márkápur	Rollapenta	...	78	...	...	...	...	78	1889	
Cumbum	Western Veligondas.	10,877	196	10,880	320	10,560	107	303		
	Southern Veligondas.	...	...	19,200	1,280	17,920	88	88	1890	
Pattikonda	Tekukonda	1,600	6	1,600	3	1,597	40	55	1889	
Rámallakót	East and West Rámallakót.	...	...	2,000	...	2,000	40	40	1890	
	Total	14,777	3,595	40,680	4,023	36,657	694	4,289		
Bellary — Sandúr	Hospet	...	876	1,050	...	1,050	...	876		
	Gound	2,905	592	2,905	...	2,905	...	592	1883	
	Ramandrug	12,635	5,050	14,785	5,593	9,192	2,832	12,908		
	North Eastern	8,010	3,299	16,010	207	15,803				
	Donemalai	9,204	1,718	9,204	6,000	3,204				
	Shivpur	9,000	617	9,000	30	8,970	126	743	1886-87	
	Chiribi	3,000	229	3,000	40	2,960	102	231	1885	
	Sunkadakal	7,000	153	7,000	...	7,000	107	260	1886-87	
	Malpanagudi	3,000	501	3,000	...	3,000	60	561		
Bellary	Forest tract protected by ordinary staff.	...	*3	183,059	7,120	175,939	...	3		* Omitted last year.
	Total	54,754	13,047	249,013	18,990	230,023	3,227	16,274		
Anantapur — Penukonda	Kottakota	4,120	1,273	5,120	250	4,870	206	1,479		
Muchukota	Muchukota	6,400	3,634	6,400	320	6,080	544	4,178	1884	
Hindupur	Amagondapalium.	16,330	1,147	16,360	200	16,160	178	1,320		
	Dokulkonda	2,880	114	2,880	...	2,880	45	159	1885	
	Somarazmalai	1,920	126	1,920	...	1,920	25	151		
Penukonda	Narsampalli	1,280	87	1,280	...	1,280	52	139	1886	
	Mallappakonda	5,120	80	5,120	...	5,120	42	122		

Area of Forest Tracts protected from Fire during 1889-90—*cont.*

District and Range.		Forest Tract.	Up to 31st March 1889.		During dry season of 1889-90.				Total cost up to 31st March 1889.	Year when protection commenced.	Remarks.
			Area actually protected.	Total cost.	Area attempted to be protected.	Area burnt.	Area actually protected.	Amount expended.			
			Acs.	Rs.	Acs.	Acs.	Acs.	Rs.	Rs.		
Anantapur —*cont.*	Dharmavaram.	Gootoor ...	6,400	243	6,400	...	6,400	111	354	1887	
		Kalyandrug, North and South.	960	42	960	...	960	54	96	1888	
	Muchukota...	Durgum ...	...	...	3,200	...	3,200	58	58	1889	
		Kudair	...	...	4,480	...	4,480	30	30		
		Anantapur ...	...	...	131	...	131	...	...		
	Gooty ...	Khojjapalli ...	...	...	367	...	367	10	10	1889	
		Jakkalcheruvu ...	...	...	3,200	...	3,200	12	12		
		Total ...	45,410	6,746	57,818	770	57,048	1,362	8,108		
Nilgiris ...	Mudumalai...	Mudumalai Plantation.	61	1,525	61	...	61	83	1,608	1883	
		Mudumalai ...	341	153	46,578	875	45,703	195	348	1888	
		Benne Plantation.	40	1,008	40	...	40	112	1,120	1886	
		Benne Plantation, part of Block Nos. I and II.	300	85	700	...	700	52	137	1888	
		Moyar	400	272	13,288	8,640	4,598	54	326	1886	
	Sigúr ...	Kalhatti Slopes...	1,554	309	9,554	...	9,554	37	346	1886	
		Sigúr	3,022	109	41,127	13,422	27,705	37	146		
	Naduvatam.	Naduvatam Sholas.	12,132	245	12,137	55	12,082	60	305	1885	
		Northern Hay ...	3,980	812	3,998	...	3,998	92	904	1883	
		South-East Wynaad Reserve.	3,500	149	3,500	...	3,500	40	189	1886	
	Ootacamund.	Marliamund ...	211	322	211	...	211	23	345	1883	
		Aramby ...	430	296	430	2	428	30	326		
		Cairn Hill ...	559	347	559	2	557	54	401		
		Brooklands ...	176	12	176	...	176	20	32	1888	
		Lovedale ...	296	263	296	...	296	22	285	1883	
		Craigmore ...	299	11	299	...	299	20	31	1888	
		Doddabetta ...	991	145	991	...	991	20	165	1886	
		Snowdon ...	1,053	120	1,053	...	1,053	20	140	1883	
		Jakuntha ...	373	42	373	1	372	20	62	1886	
		Muthanad ...	420	267	420	...	420	20	287	1883	
		Governor's Shola.	2,663	816	2,670	2	2,668	40	856		
		Pykara	1,259	184	1,309	3	1,306	27	211		
	Coonoor ...	Sandynulla ...	818	41	818	...	818	20	61	1883	
		Kengodu ...	451	40	451	...	451	20	60		
		Kadecoopa ...	1,622	29	1,622	15	1,607	20	49		
		Pichelbettu ...	2,791	44	2,991	13	2,978	20	64		
		Hulikal ...	6,411	404	6,411	...	6,411	22	426		
		Rallia	848	506	848	...	848	58	564		
		Black Bridge ...	390	195	390	...	390	41	236		
		Coonoor Peak ...	540	493	540	...	540	52	545		
		Lamb's Rock ...	708	351	708	...	708	45	396		
		Tiger Hill ...	328	186	328	...	328	32	218		
		Ghât Reserve ...	311	394	311	...	311	263	657		
		Hill Grove ...	187	173	187	...	187	22	195		
		Pillur Slopes ...	3,221	127	3,221	10	3,211	30	157	1887	
		Halakaray ...	420	56	420	...	420	26	84		
	Kótagiri ...	Kótagiri ...	660	710	660	...	660	60	799	1885	
		Jakanaré ...	213	29	213	...	213	16	45	1886	
		Konakarai ...	6,758	28	6,758	...	6,758	19	47	1887	
		Do. Slopes.	1,864	23	1,864	30	1,834	16	39		
		Kengarai ...	428	39	428	...	428	14	53		
		Vagapanai Slopes.	2,607	19	2,648	...	2,648	16	35		
		Donad	2,400	35	2,444	...	2,444	23	58		
		Kodanad ...	2,236	51	2,236	10	2,226	29	80		
	Melúr ...	Ithalar	460	50	460	...	460	25	75	1886	
		Devashola ...	215	150	215	...	215	68	218	1883	
		Balakola ...	935	167	935	...	935	70	237	1886	
		Athigarhatti ...	34	8	34	...	34	25	33	1887	
		Commanda ...	1,167	231	1,167	...	1,167	96	327	1883	
	Kullar ...	Kundahs ...	40,448	337	45,448	2,370	43,078	74	411	1885	
		Barliyár ...	2,215	1,086	2,275	20	2,255	332	1,418	1883	
		Jakanaré Slopes.	6,019	185	6,419	22	6,397	128	303	1886	
		Total ...	121,765	13,681	238,170	25,492	207,678	2,779	16,460		
		Grand Total ...	920,445	71,917	1,727,790	128,202	1,599,588	16,540	88,477		

Abstract of Form No. 62.

District.	Area protected during 1888-89.		During dry season of 1889-90.				Total cost up to 31st March 1890.	Remarks.
	Area actually protected.	Total cost.	Area attempted to be protected.	Failures.	Area actually protected.	Amount expended.		
	Acs.	Rs.	Acs.	Acs.	Acs.	Rs.	Rs.	
Ganjam	292,182	3,353	339,730	18,770	320,960	925	4,278	
Vizagapatam	8,930	...	23,560	40	23,520	225	225	
Godávari	76,242	396	126,746	460	126,286	476	872	
Kistna	43,813	3,906	98,057	1,035	97,022	722	4,628	
Nellore	68,500	1,444	75,000	6,720	68,280	936	2,380	
Cuddapah	194,072	25,749	484,016	51,902	432,114	5,214	30,963	
Kurnool	14,777	3,595	40,680	4,023	36,657	694	4,289	
Bellary	54,754	13,047	249,013	18,990	230,023	3,227	16,274	
Anantapur	45,410	6,746	57,818	770	57,048	1,362	8,108	
Nilgiris	121,765	13,681	233,170	25,492	207,678	2,779	16,460	
Total ...	920,445	71,917	1,727,790	128,202	1,599,588	16,560	88,477	

ANNUAL FORM No. 63.

Forest Department, Madras, Northern Circle.

Prosecutions for Breaches of Forest Rules during 1889-90.

District.	Cases pending from 1888-89.	NEW CASES OF THE YEAR.					DISPOSED OF DURING THE YEAR.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	Total cases.	Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Ganjam ...	35	2	24	1	6	33	68	43	86	17	61	60	147	8
Vizagapatam ...	41	...	227	22	3	252	293	214	464	48	120	262	584	31
Godávari ...	9	...	19	...	13	32	41	34	56	4	11	38	67	3
Kistna ...	36	...	68	10	29	107	143	66	183	27	83	93	266	50
Nellore ...	28	1	48	5	1	55	83	34	106	32	123	66	229	17
Cuddapah ...	7	5	92	21	2	120	127	78	176	25	53	103	229	24
Kurnool ...	6	1	165	19	9	194	200	118	297	81	269	199	566	1
Bellary ...	7	2	63	18	5	88	95	59	184	32	157	91	341	4
Anantapur ...	6	4	34	3	3	44	50	24	109	19	73	43	182	7
Nilgiris ...	4	...	5	1	2	8	12	10	11	2	4	12	15	...
Total ...	179	15	745	100	73	933	1,112	680	1,672	287	954	967	2,626	145

Cases compounded under section 55 of the Madras Forest Act.

														Amount for which compounded.
														Rs. A. P.
Ganjam ...	102	...	30	2	10	51	153	140	146	...	...	140	146	13	449 5 0
Vizagapatam ...	...	...	91	20	...	111	111	111	201	...	...	111	201	...	478 15 0
Godávari ...	...	...	3	...	17	20	20	20	22	...	...	20	22	...	98 15 5
Kistna ...	...	...	95	4	8	107	107	107	164	...	...	107	164	...	402 14 0
Nellore ...	...	...	42	...	...	42	42	42	147	...	...	42	147	...	141 10 0
Cuddapah ...	...	1	57	13	...	71	71	71	180	...	...	71	180	...	983 0 0
Kurnool ...	...	...	5	1	...	6	6	6	6	...	...	6	6	...	150 0 0
Bellary ...	...	...	6	...	...	6	6	6	19	...	...	6	19	...	22 1 6
Anantapur ...	...	...	7	1	...	8	8	8	52	...	...	8	52	...	17 4 0
Nilgiris ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	102	1	345	41	35	422	524	511	937	...	...	511	937	13	2,744 0 11

Annual Form No. 64.

Forest Department, Madras, Northern Circle.

Summary of Revenue of the different districts, 1889-90.

Budget heads, Receipts.	Direction.	Ganjam.	Vizagapatam.	Godávari	Kistna.	Nellore.	Cuddapah.	Kurnool.	Bellary.	Anantapur.	Nilgiris.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—Timber and other produce removed from the forests by Government Agency—												
(a) Timber	...	9,039	7	1,973	...	71	16,782	...	33	117	5,948	34,870
(b) Firewood and charcoal	...	995	7	...	514	37,827	280	1	1,378	288	17,941	59,231
(c) Bamboos	...	159	2	...	120	...	349	...	1,935	180	...	2,745
(d) Sandalwood ...	...	...	...	...	...	...	...	...	...	...	5,616	5,616
(e) Grass and other minor produce	...	...	...	...	1	8,311	734	457	...	579	1,352	11,434
II. Timber and other produce removed from the forests by consumers or purchasers—												
(a) Timber	...	236	855	32,644	20,789	8,549	16,866	34,440	5,332	2,028	3,827	1,25,566
(b) Firewood and charcoal	...	7,446	3,661	9,241	9,301	2,429	32,348	9,698	4,942	1,525	1,736	82,327
(c) Bamboos	...	2,059	2,586	14,956	1,204	77	9,139	16,956	38	...	2,299	49,314
(d) Grazing and fodder grass	...	7	23	1,959	48,541	16,036	3,814	5,419	878	1,154	1,039	79,470
(e) Other minor produce	...	272	1,234	11,882	12,123	13,590	51,838	8,572	17,911	15,656	611	1,33,689
III.—Confiscated drift and waif wood	...	67	38	8,642	116	84	819	3,230	61	35	26	13,118
IV.—Revenue from forests not managed by Government...	...	30	...	...	...	...	...	...	...	...	...	30
V.—Miscellaneous—												
(a) Fines and forfeitures.	...	...	...	16	63	...	37	...	...	...	...	116
(b) Refunds	607	601	9	65	210	239	338	226	142	11	155	2,603
(c) Other sources	5	1,481	435	279	910	187	1,310	327	371	987	189	6,481
Total, Receipts ...	612	23,292	8,857	81,657	93,892	87,400	1,34,654	79,326	33,021	22,560	41,339	6,06,610

Madras,
9th June 1890.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

ANNUAL FORM No. 64.

Forest Department, Madras, Northern Circle.

Summary of expenditure of the different districts, 1889-90.

Budget heads.	Direction.	Ganjam.	Vizagapatam.	Godávari	Kistna.	Nellore.	Cuddapah.	Kurnool.	Bellary.	Anantapur.	Nilgiris.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A.—Conservancy and Works.												
I.—Timber and other produce removed from the forests by Government Agency—												
(a) Timber ...	...	9,095	4	1,168	...	78	8,440	...	4	54	3,014	21,857
(b) Firewood and charcoal ...	...	2,714	153	...	175	17,223	91	8	1,556	126	15,358	37,404
(c) Bamboos ...	...	...	1	...	116	...	110	...	577	93	...	897
(d) Sandalwood ...	...	...	...	...	...	...	...	...	...	...	1,856	1,856
(e) Grass and other minor produce.	...	27	...	...	...	3,256	614	109	828	119	690	5,643
II.—Timber and other produce removed from the forests by consumers or purchasers ...	...	1,309	2,030	5,641	2,283	390	5,726	9,142	372	1,260	1,651	29,804
III.—Confiscated drift and waif wood ...	...	1,127	98	2,188	22	6	38	332	6	26	...	3,843
IV.—Revenue from forests not managed by Government ...	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government ...	...	...	...	...	...	...	...	...	10,000	...	3,500	13,500
VI.—Live stock, stores, tools and plant—												
(a) Purchase of cattle ...	...	...	...	...	...	...	16	...	...	...	...	16
(b) Feed and keep of cattle ...	...	...	...	2,373	...	...	...	...	...	...	1,427	3,800
(c) Stores, tools and plant ...	170	218	29	603	445	1,049	563	73	57	70	473	3,750
VII.—Communications and buildings—												
(a) Roads and bridges ...	...	1,445	...	1,209	1,025	...	1,636	1,595	812	7	2,024	9,752
(b) Buildings ...	...	2,158	16	1,954	2,108	574	1,653	2,544	596	469	1,350	13,422
(c) Other works ...	...	7	8	...	670	...	28	...	...	...	113	826
VIII.—Demarcation, improvement and extension of forests—												
(a) Demarcation ...	...	1,626	102	2,941	1,634	2,166	3,121	631	551	3,715	1,764	18,251
(b) Compensation for land and rights ...	2	...	...	705	2,626	244	761	180	235	323	50	5,126
(c) Surveys and working plans ...	771	544	8	652	119	362	126	63	950	20	133	3,743
(d) Plantations ..	98	660	6	648	2,636	4,154	2,020	278	347	709	7,399	19,045
(e) Protection from fire ...	...	925	225	476	722	936	5,214	694	3,227	1,362	2,779	16,560
(f) Other works ...	...	42	...	...	1,341	254	1,125	18	916	21	2,373	6,090
IX.—Miscellaneous—												
(a) Refunds ...	...	75	1	25	309	228	60	102	99	50	802	1,751
(b) Law charges ...	8	...	...	2	10	561	...	17	1	129	...	728
(c) Other charges.	203	54	7	29	107	27	54	284	37	26	21	849
Total A.—Conservancy and works	1,252	22,026	2,683	20,614	16,348	31,508	31,395	16,070	21,171	8,669	46,777	2,18,513

MADRAS,
9th June 1890.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

ANNUAL FORM No. 64.

Forest Department, Madras, Northern Circle.

Summary of expenditure of the different districts, 1889-90.

Budget heads.	Direction.	Ganjam.	Vizagapatam.	Godávari	Kistna.	Nellore.	Cuddapah.	Kurnool.	Bellary.	Anantapur.	Nílgiris.	Total.
B.—"Establishments."	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Brought forward, Total A. "Conservancy and Works."	1,252	22,026	2,683	20,614	16,348	31,508	31,395	16,070	21,171	8,669	46,777	2,18,513
I.—Salaries—												
(a) Conservators ...	15,870	...	...	...	...	...	...	...	...	...	...	15,870
(b) Superior officers ...	16,320	7,644	876	8,454	4,689	7,132	8,400	6,417	3,650	2,744	4,850	71,176
(c) Subordinate forest and depôt establishments.	2,385	4,626	2,489	7,360	7,629	6,533	10,522	8,187	4,409	5,084	7,863	67,087
(d) Office establishments.	14,424	1,794	950	1,598	1,725	2,335	2,421	2,306	1,185	1,097	2,096	31,931
(e) Deputation and special allowances ...	775	...	...	...	...	...	...	...	...	...	...	775
Famine batta ...	...	108	...	...	...	...	...	...	...	...	...	108
II.—Travelling allowances—												
(a) Conservators ...	4,720	...	...	...	...	...	...	...	...	...	...	4,720
(b) Superior officers ...	3,297	1,005	82	1,358	870	1,401	3,063	1,566	1,075	456	1,451	15,624
(c) Subordinate forest and depôt establishments	881	1,643	937	2,532	2,156	1,283	2,502	2,267	825	1,225	2,207	18,548
(d) Office establishments	2,147	342	261	330	567	271	422	372	134	246	47	5,139
III.—Contingencies—												
(a) Stationery ...	27	...	2	...	...	28	...	...	...	...	9	66
(b) Carriage of tents and records ...	609	164	68	130	296	175	128	45	72	154	...	1,841
(c) Rents, rates and taxes	...	250	50	180	91	...	20	7	160	42	...	800
(d) Pay of police guards	...	...	...	...	...	...	...	...	...	...	...	...
(e) Official postage ...	754	327	122	347	530	385	402	303	251	201	188	3,810
(f) Sundries	925	202	96	73	135	217	156	121	53	268	576	2,822
Total B. "Establishments" ...	62,634	18,105	5,933	22,362	18,688	19,760	28,126	21,591	11,814	11,517	19,287	2,39,817
Grand Total of expenditure ...	63,886	40,131	8,616	42,976	35,036	51,268	59,521	37,661	32,985	20,186	66,064	4,58,330

MADRAS,
9th June 1890.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

ANNUAL FORM No. 65.

Forest Department, Madras, Northern Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.

District.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCE DUE.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).
	Rs. A. P.	Rs. A. P.	Rs. A P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Conservator of Forests, Northern Circle ...	...	1,624 1 5	1,624 1 5	5 4 4	1,652 9 5	1,657 13 9	33 12 4	...
Two-fifths of Examiner's office	...	541 4 0	541 4 0	4 11 5	845 9 4	850 4 9	309 0 9	...
Forest Settlement office, Nellore, &c.	...	344 8 0	344 8 0	19 0 0	340 0 0	359 0 0	14 8 0	...
Do. Kistna, Kurnool, &c.	...	.....	.....	.....	.....	.....	.....	...
Forest School, Dehra Dun.	...	.....	.....	.....	.....	.....	.....	...
Ganjam	...	40,366 8 3	40,366 8 3	3,009 0 1	41,156 2 10	44,225 2 11	3,858 10 8	...
Vizagapatam	...	6,598 4 0	6,598 4 0	646 11 4	6,315 2 11	6,961 14 3	363 10 3	...
Godávari	...	30,142 12 0	30,142 12 0	2,501 13 0	29,586 14 5	32,088 11 5	1,945 15 5	...
Kistna	...	26,269 2 0	26,269 2 0	1,094 2 8	25,856 11 6	26,950 14 2	681 12 2	...
Nellore	...	38,644 13 10	38,644 13 10	1,001 15 10	38,556 6 3	39,558 6 1	913 8 3	...
Cuddapah	...	40,418 15 2	40,418 15 2	507 3 3	40,192 3 0	40,699 6 3	280 7 1	...
Kurnool	...	14,930 2 2	14,930 2. 2	711 10 8	14,771 12 2	15,483 6 10	553 4 8	...
Bellary	...	16,744 13 5	16,744 13 5	447 11 3	16,566 9 2	17,014 4 5	269 7 0	...
Anantapur	...	13,613 0 11	13,613 0 11	336 1 5	13,987 8 3	14,323 9 8	710 8 9	...
Nilgiris	...	19,843 0 4	19,843 0 4	1,278 4 6	20,013 11 5	21,291 15 11	1,448 15 7	...
Total ...	...	2,50,081 5 6	2,50,081 5 6	11,623 9 9	2,49,841 4 8	2,61,464 14 5	11,383 8 11	...

MADRAS,
10th June 1890.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

ANNUAL FORM No. 66.

Forest Department, Madras, Northern Circle.

Revenue received and Outstandings on account of Revenue during 1889-90.

District.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Direction	Timber and other produce ...	.....	611 15 0	611 15 0	611 15 0	.....
Ganjam	Do. ...	431 10 4	32,842 10 0	33,274 4 4	23,291 7 10	9,982 12 6
Vizagapatam ...	Do. ...	.....	8,856 10 5	8,856 10 5	8,856 10 5	.....
Godávari	Do. ...	.....	81,662 10 10	81,662 10 10	81,656 9 10	6 1 0
Kistna	Do. ...	2,211 7 10	92,769 5 11	94,980 13 9	93,892 5 3	1,088 8 6
Nellore	Do. ...	70 11. 3	87,329 8 2	87,400 3 5	87,400 3 5	.....
Cuddapah	Do. ...	63 1 10	1,35,183 2 11	1,35,246 4 9	1,34,654 4 0	592 0 9
Kurnool	Do. ...	.....	79,325 10 10	79,325 10 10	79,325 10 10	.....
Bellary	Do. ...	.....	34,189 9 3	34,189 9 3	33,021 3 3	1,168 6 0
Anantapur	Do. ...	.....	22,560 2 6	22,560 2 6	22,559 14 1	0 4 5
Nilgiris	Do. ...	1,033 0 6	40,479 13 9	41,512 14 3	41,339 11 1	173 3 2
	Total ...	3,809 15 9	6,15,811 3 7	6,19,621 3 4	6,06,609 15 0	13,011 4 4

MADRAS,
9th June 1890.

(Signed) G. HOMFRAY,
Ag. Examiner of Forest Accounts.

Annual Form No. 67.

Forest Department, Madras, Northern Circle.

Financial results of the year 1889-90.

District.	Timber and other produce removed from the forests by Government Agency.		Other revenue.		Formation, protection and improvement of forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs
Ganjam	11,093	24,161	12,273	7,941	15,695	23,366	47,797
Vizagapatam .	16	158	8,865	6,885	4,628	8,881	11,171
Godávari ..	1,973	5,099	79,758	28,065	22,539	81,731	50,643
Kistna ...	635	291	93,331	17,605	24,807	93,966	42,703
Nellore	46,209	32,052	41,265	5,881	21,002	87,474	58,935
Cuddapah	18,145	17,707	1,16,583	21,373	28,108	1,34,728	67,188
Kurnool	458	117	78,942	25,506	19,705	79,400	45,328
Bellary	3,346	4,657	29,723	13,735	19,703	33,069	38,095
Anantapur	1,164	392	21,444	9,859	15,045	22,608	25,296
Nilgiris	30,857	32,961	10,530	12,272	25,941	41,387	71,174
Total ..	1,13,896	1,17,595	4,92,714	1,43,562	1,97,173	6,06,610	4,58,330

Forest Department, Madras, Northern Circle.

Abstract of Form No. 68 shewing the number of trees felled by selection by Government Agency during the year 1889-90.

District.	Teak.	Sál.	Black or rose-wood.	Iron-wood.	Eucalyptus and Acacia.	Miscel-laneous.	Bamboos.	Total.
Balance at the end of the year 1888-89.	...	90	5	136	...	256	6,911	7,398
Ganjam	...	1,760	..	...	...	348	710	2,818
Vizagapatam	...	...	...	...	...	132	...	132
Godávari	...	...	...	352	...	210		562
Kistna	...	...	...	...	...	2,818	7,735	10,553
Nellore	...	...	...	...	...	.	...	...
Cuddapah	...	...	...	...	...	...	...	...
Kurnool	...	...	...	...	...	...	...	...
Bellary	...	...	...	...	...	. .	...	...
Anantapur	..	...	...	...	...	154	...	154
Nilgiris	347	...	9	...	20,225	212	...	20,793
Total ...	347	1,760	9	352	20,225	3,874	8,445	35,012
Conversion	275	1,668	3	352	20,225	3,846	710	27,079
Otherwise disposed of	...	50	...	...	...	..	7,735	7,785
Total ...	275	1,718	3	352	20,225	3,846	8,445	34,864
Balance on hand on the 31st March 1890.	72	132	11	136	...	284	6,911	7,546

Forest Department, Madras, Northern Circle.

Districtwar Abstract of Form 69 showing the collection of timber, &c., in the Northern Circle during the year 1889-90.

—	Timber. Teak.	Sál.	Red sanders.	Iron-wood.	Black-wood or rose-wood.	Miscellaneous.	Total.	Firewood and charcoal.	Bamboos.	Sandal-wood.	Minor produce.	Remarks.
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	MDS.	MDS.	
Stock of the circle at the beginning of the year	8,450	37,280	3,734	2,673	2,905	17,851½	73,032½	650,836	17,701	...	2,054½	
Ganjam	...	36,967	...	...	...	1,350	38,316	198,002	10,581	...	...	
Vizagapatam	...	...	...	...	...	132	132	813	300	...	...	
Godavari	190	...	...	1,550	...	2,910	4,450	...	...	...	...	
Kistna	...	...	...	...	...	...	...	6,265	7,735	...	4½	
Nellore	...	...	...	...	...	...	...	141,848	...	...	10,978	
Cuddapah	...	...	54,048	...	...	2,915	56,963	9,316	15,613	...	2,897	
Kurnool	...	...	...	...	...	...	...	2,290	...	...	613½	
Bellary	235	...	...	...	...	225	460	8,521	66,725	...	9,062½	
Anantapur	...	...	...	...	...	2,650	2,650	7,030	7,412	...	177½	
Nilgiris	7,890	...	...	...	396	8,681	16,967	482,706	...	* 1,762	1,583½	* 783 cubic feet.
Total actual new collection ...	8,315	36,957	54,048	1,550	396	18,872	119,938	851,707	108,386	* 1,762	25,306	
Collection by conversion ...	...	9,548	...	...	...	...	9,548	...	...	...	...	
Forest depot transfers ...	...	26,133	...	...	...	342	26,475	26,772	460	...	32½	
Total ...	8,315	72,638	54,048	1,550	396	19,214	155,961	878,479	108,826	* 1,762	25,338½	
Grand Total ...	16,765	109,877	57,782	4,223	3,301	37,065½	228,993½	1,529,315	126,527	* 1,762	28,393½	
Sold in the forests	4,302	476	1,037	270	1,040	8,081	15,202	285,201	88,394	† 1,006	15,007½	† 740 cubic feet.
Disposal by conversion ...	...	10,757	...	...	...	...	10,757	...	...	...	...	
Removed to sale depots ...	...	12,069	48,942	1,614	...	6,762	69,387	241,091	19,815	...	11,708	
Forest depot transfers ...	...	26,133	...	...	...	342	26,475	26,772	460	...	32½	
Otherwise disposed of	767	11,152	1	57	778	2,820	16,575	114,607	4,405	...	630	
Total ...	5,159	60,587	50,980	1,941	1,824	19,005	148,996	667,761	113,104	† 1,006	27,438½	
Stock at the close of the year ..	11,606	49,290	7,202	2,282	1,477	18,040½	80,897½	870,554	13,453	‡ 96	954½	‡ 48 cubic feet.

Forest Department, Madras, Northern Circle.

Distribution Abstract of Form No. 70 shewing the Receipts and Issues of Timber and other Produce in Sale Depôts during the year 1889-90.

—	Timber. Teak.	Sál.	Red sanders.	Iron-wood.	Black or rose-wood.	Miscellaneous.	Total timber.	Firewood and charcoal.	Bamboos.	Sandalwood.	Minor produce.
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	C. FT.	MDS.
Stock on 1st April 1889 ...	...	20,348	109,794	...	74	3,725½	133,941½	80,147	...	...	3,037½
Received from forests—											
Ganjam	...	12,069	...	...	...	107	12,176	30,609	7,695	...	...
Godávari	...	...	...	1,614	...	3,296	4,910	...	...	...	...
Kistna	...	...	...	...	...	...	...	...	7,500	...	...
Nellore	...	...	...	...	...	...	...	63,013	...	...	8,603½
Cuddapah	...	...	48,942	...	...	2,513	51,455	420	283	...	3,034½
Bellary	...	...	...	...	...	...	...	5,727	...	...	...
Anantapur	...	...	...	...	...	...	...	...	4,337	...	130½
Nilgiris	...	...	...	...	...	846	846	141,322	...	...	...
Total ...	...	12,069	48,942	1,614	...	6,762	69,387	241,091	19,815	...	11,768½
Received from other sale depôts.	...	8,603	...	...	15	57	8,675	4,759	770	...	653½
Received by conversion ...	...	6,167	...	971	...	113	7,251	3,088	...	...	...
Add quantity found in the depôt.	...	258	...	...	...	246½	504½	276	20	...	...
Total ...	...	27,097	48,942	2,585	15	7,178½	85,817½	249,209	20,605	...	12,421½
Grand Total ...	...	47,445	158,736	2,585	89	10,904	219,759	338,356	20,605	...	15,459½
Sold from depôt	...	25,056	68,358	669	28	7,017	101,128	264,612	18,925	...	10,317½
Removed to other sale depôts.	...	8,603	...	...	15	57	8,675	4,759	770	...	653½
Disposal by conversion ...	...	7,444	...	1,305	...	377	9,126	...	...	...	...
Otherwise disposed of ...	...	2,142	...	307	...	184	2,633	13,920	872	...	479
Total disposals ...	...	43,245	68,358	2,281	43	7,635	121,562	283,291	20,567	...	11,450
Balance in depôts on 31st March 1890.	...	4,200	90,378	304	46	3,269	98,197	55,065	38	...	4,009½

Forest Department, Madras, Northern Circle.

Abstract of Form No. 71 shewing sales of Timber and other Produce both in the Depôt and the Forest during the year 1889-90.

District.	Timber.														Firewood and charcoal.		Bamboos.		Sandal-wood.		Minor produce.	
	Teak.		Sál.		Red sanders.		Iron-wood.		Black or rosewood.		Miscellaneous.		Total.									
	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.	Depot.	Local.
1	2		3		4		5		6		7		8		9		10		11		12	
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	NO.	C. FT.	C. FT.	MDS.	MDS.
Ganjam ...	...	...	25,056	476	...	...	...	...	28	...	179	...	25,263	476	22,222	100	6,805	870	...	...	...	...
Vizagapatam .	...	...	...	...	...	...	...	...	...	...	...	132	...	132	...	18	...	360	...	...	...	...
Godávari ...	...	190	...	...	...	...	600	270	...	...	3,296	...	3,903	460	...	...	...	...	...	...	...	...
Kistna ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,435	7,500	...	...	...	...	4½
Nellore ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	115,500	137,669	...	...	...	...	8,435½	3,290½
Cuddapah ...	...	5	...	...	68,358	1,037	...	...	...	...	2,564	752	70,922	2,394	420	11,000	283	17,424	...	...	1,581½	63½
Kurnool ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40	...	...	...	...	...	810
Bellary ...	...	..	...	...	...	...	...	...	...	...	...	225	...	225	4,864	8,763	...	60,728	...	...	...	9,065
Anantapur ...	...	...	...	...	...	...	...	...	...	...	...	1,000	...	1,000	...	7,036	4,337	3,075	...	...	360½	47
Nilgiris ...	...	4,197	...	...	...	...	...	...	...	1,046	976	5,972	976	11,215	131,546	115,534	...	...	...	740	...	1,741½
Total ...	...	4,392	25,056	476	68,358	1,037	600	270	28	1,046	7,017	8,081	101,128	15,902	264,612	285,201	18,925	88,394	...	740	10,317½	15,007½

District.	Value of Sale.										Total.		Remarks.
	I (a.) Timber.		I (b.) Firewood.		I (c.) Bamboos.		I (d.) Sandal-wood.		I (e.) Minor produce.				
	Amount of sale.	Amount actually paid.	Amount of sale.	Amount actually paid.	Amount of sale.	Amount actually paid.	Amount of sale.	Amount actually paid.	Amount of sale.	Amount actually paid.	Amount of sale.	Amount actually paid.	
	13		14		15		16		17		18		19
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Ganjam ...	19,525	9,030	995	995	150	150	...	...	...	...	20,670	11,018	Abstract of amount realized.
Vizagapatam .	7	7	7	7	2	2	...	...	...	...	16	16	
Godávari ...	1,980	1,973	...	...	...	...	...	...	...	...	1,980	1,973	Rs.
Kistna ...	...	...	619	514	120	120	...	...	1	1	740	635	I (a) 34,670
Nellore ...	...	71	37,827	37,827	...	...	...	...	8,311	8,311	46,138	46,209	I (b) 50,282
Cuddapah ...	16,980	16,782	280	280	340	340	...	...	841	784	18,450	18,145	I (c) 2,745
Kurnool ...	...	...	1	1	...	...	...	...	456	456	457	457	I (d) 5,616
Bellary ...	83	83	1,378	1,378	1,835	1,835	...	...	1,023	...	4,309	3,346	I (e) 11,433
Anantapur ...	117	117	288	288	180	180	...	...	579	579	1,164	1,164	
Nilgiris ...	4,948	5,948	18,079	17,941	...	...	5,616	5,616	1,355	1,352	29,998	30,857	Total ... 1,13,896
Total ...	43,599	34,870	59,474	59,232	2,745	2,745	5,616	5,616	12,566	11,433	1,24,000	1,13,896	
											1,526	...	
											1,25,526	1,13,896	
											1,13,896	...	
											11,630	...	

Add outstandings due from previous year, as per form No. 66 ...

Total ...

Deduct amount realized during the year ...

Balance outstanding on 31st March 1890, as per form No. 66 ...

Forest Department, Madras, Northern Circle.

Abstract of Form No. 72-A—Timber and other produce cut, collected and removed from the forests by consumers or purchasers, including pasture, during the year 1889-90.

District.	Timber.	Firewood.				Bamboos.	Minor produce.
		Firewood.	Railway fuel.	Charcoal.	Total.		
	C. FT.	C. FT.	C. FT.	C. FT.	C. FT.	NO.	MDS.
Ganjam	1,280	704,764	...	3,684	708,448	120,327	...
Vizagapatam	25,581	283,995	...	92,360	326,355	269,916	4,578
Godávari	270,804	342,268	...	4,888	347,156	2,593,105	369,981
Kistna	207,946	649,447	...	779	650,226	269,055	222,705
Nellore	67,156	28,802	...	20	28,822	6,143	831,345
Cuddapah	407,106	1,137,998	357,816	5,680	1,501,494	1,061,550	184,872
Kurnool	331,880	332,740	238,416	7,720	578,876	2,492,250	39,465
Bellary	37,860	163,638	...	6,696	170,334	3,048	69,899
Anantapur	20,713	89,905	...	...	89,905	...	138,135
Nilgiris	18,190	26,840	...	1,310	28,150	222,410	91,838
Total ...	1,457,016	3,710,397	596,232	123,137	4,429,766	7,038,404	1,952,818

	Sales.	Actually realized.
	RS.	RS.
11. (a) Timber	1,25,594	1,25,566
(b) Firewood and charcoal	82,292	82,327
(c) Bamboos	49,315	49,314
(d) Grazing and fodder grass	78,327	79,470
(e) Other minor produce	1,33,835	1,33,689
Total ...	4,69,363	4,70,366
Add outstandings due from previous year as per form No. 66	2,268	
Total ...	4,71,631	
Deduct amount realized during the year	4,70,366	
Balance outstanding on 31st March 1890 as per form No. 66	1,265	

Forest Department, Madras, Northern Circle.

Abstract of Form No. 72-B—Timber and other Produce confiscated and sold during the year 1889-90.

ABSTRACT.

District.	Timber.		Firewood.				Bamboos.		Minor produce.		Total revenue.
			Firewood.		Charcoal.						
	Quantity.	Value received.	Quantity.	Value received.	Quantity.	Value received.	Quantity.	Value received.	Quantity.	Value received.	
	C.FT.	RS.	C.FT.	RS.	C.FT.	RS.	NO.	RS.	MDS.	RS.	RS.
Ganjam ...	206	62	85	3	6	1	...	...	28	1	67
Vizagapatam.	152	38	...	...	...	...	...	...	...	...	38
Godávari ...	26,071	8,216	7,368	330	8	1	5,590	79	44	16	8,642
Kistna ...	553	65	123	11	...	...	4,675	31	1,210	9	116
Nellore ...	585	43	...	...	...	...	9	1	5,400	40	84
Cuddapah ...	2,069	600	7,154	187	3	2	1,510	9	113	21	819
Kurnool ...	60,980	3,049	10,080	126	...	...	6,000	50	225	5	3,230
Bellary ...	290	14	3,200	40	...	...	...	...	182	7	61
Anantapur ...	...	...	695	19	...	...	...	...	300	16	35
Nilgiris ...	...	...	43	5	648	20	100	1	...	...	26
Total ...	90,896	12,087	28,748	721	665	24	17,884	171	7,497	115	13,118

Annual Form No. 73-A.

Forest Department, Madras, Northern Circle.

Abstract shewing the value of timber and other produce at sale depôts, for the year 1889-90.

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at end of the year.			Difference in value.		Remarks.
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year.	
				Rs.			Rs.	Rs.	Rs.	
Ganjam ...	Sál logs	478	3,278	1,383	225	2,061	674	...	709	
	Do. sleepers	8,186	16,796	11,901	468	2,086	365	...	11,536	
	Do. scantlings	66	89	26	...	...	...	...	26	
	Do. rafters	263	171	90	71	39	5	...	85	
	Do. slabs	6,339	...	127	13,184	...	232	105	...	
	Do. planks	27	14	1	27	14	1	...	...	
	Pissál logs	6	49	22	9	100	34	12	...	
	Blackwood logs	3	28	9	...	...	...	...	9	
	Miscellaneous logs ...	231	2,979	621	176	2,574	468	...	153	
	Satinwood	36	357	158	29	318	145	...	13	
	Ebony	3	46	21	3	46	21	...	...	
	Firewood and charcoal ...	Tons 22¼	1,575	10	...	13,047	25	15	...	
	Minor produce	Mds. 40	...	5	...	...	...	...	5	
	Bamboos	...	...	...	38	...	1	1	...	
	Total ...	...	...	14,374	...	...	1,971	...	12,403	
Godávari ...	Sleepers	...	...	...	228	304	456	456	...	
	Total ...	...	...	...	...	...	456	456	...	
Nellore ...	Casuarina pole	1	2	1	1	2	1	...	...	
	Junglewood firewood ...	799,865	55,440	9,691	98,194	1,266	572	...	9,119	
	Sulli bundles	16,772	7,454	*2,097	8,058	3,581	1,259	...	838	* The difference of Rs. 6,516 is owing to the wrong calculation of the number of sulli bundles and consequently to the wrong valuation.
	Rattans	10	Mds. 30	58	66	Mds. 198	380	322	...	
	Casuarina wood	...	...	...	Tons 125	5,000	625	625	...	
	Total ...	...	...	*11,847	...	...	2,837	...	9,010	
Cuddapah.	Redwood roots and stumps	Tons 2,286	109,704	22,860	Tns. 1,883	90,378	23,196	336	...	
	Thamba slabs	50	50	38	...	...	...	...	38	
	Minor produce	Mds. 2,771	...	1,099	Mds. 3,810½	...	1,356	257	...	
	Total ...	...	...	23,997	...	...	24,552	555	...	
Bellary ...	Fuel	Tons 34½	†2,380	42	26	1,794	190	148	...	† C. ft. 3,039 was an error.
	Total ...	...	...	42	...	...	190	148	...	
Anantapur...	Minor produce	Mds. 174½	...	380	Md. 1	...	3	...	377	
	Total ...	...	...	380	...	...	3	...	377	
Nilgiris ...	Acacia planks and rafters.	372	191	253	4	4	3	...	250	
	Drag poles	98	98	12	271	271	34	22	...	
	Firewood and charcoal ...	294	22,296	2,268	‡576¼	30,377	2,429	161	...	‡ Lots. Bags. 276¼ 300
	Minor produce	Mds. 22	...	14	...	...	...	...	14	
	Total ...	...	...	2,547	...	...	2,466	...	81	
	Grand Total ...	...	...	§ 53,187	...	...	32,475	...	20,712	§ For the difference of Rs. 6,516. *Vide* explanation against the Nellore District.

Annual Form No. 73-B.

Forest Department, Madras, Northern Circle.

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1889-90.

District.	Description of stock.	On hand at commencement of the year.		On hand at end of the year.		Difference in value		Remarks
		Number.	Value.	Number.	Value	In favor of the year	Against the year	
			Rs		Rs	Rs	Rs	
Direction ...	Surveying and other instruments.	16	193	19	193	...	...	
	Furniture	78	980	80	1,004	...	...	
	Letter-weighing scales with weights.	2	108	2	108	...	...	
	Miscellaneous	4	52	8	57	...	...	
	Total	100	1,333	109	1,362	29	..	
Ganjam ...	Rest or inspection houses	*7	3,705	7	5,433	..	..	* Russelkonda, Berhampore, Gullery, Hatiguda, Rumba, Tilsingi, and Chondorgiri
	Range houses ...	3	2,265	† 3	1,590	...	...	† Gayagonda, Mojagodo, and Surada
	Guards' and tannah huts.	16	1,013	16	953	...	...	
	Furniture	35	263	46	365	...	..	
	Tools	192	240	200	319	...	..	
	Surveying and other instruments	26	436	26	434	...	...	
	Letter-weighing scales.	...	..	1	34	...	..	
	Miscellaneous	2	20	8	43	...	...	
	Total ...	281	7,942	302	9,171	1,229	...	
Vizagapatam	Surveying and other instruments	10	23	10	23	...	...	
	Tools	16	...	16	...	...	..	
	Furniture	20	97	‡ 22	97	...	...	‡ Cost of 2 medicine chests not known
	Miscellaneous ...	1	12	1	12	..	..	
	Total ...	47	132	49	132	..	...	
Godávari ...	Rest or inspection house	1	327	§ 3	2,100	...	...	§ Rekapalli, Murmur, & Jirigudda
	Range house ...	...		‖ 1	350	...	...	‖ Marrigudem.
	Depôt and office sheds ..	1	27	8	236	...	...	
	Guards' and tannah huts	10	117	10	97	...	...	
	Surveying and other instruments.	22	169	32	385	...	..	
	Tools	441	423	458	441	..	...	
	Furniture	55	496	61	496	...	...	
	Miscellaneous	71	393	120	651	...	..	
	Boat	1	1,500	1	1,500	...	...	
	Scales with tripods ...	3	413	3	413	...	..	
	Elephants	4	6,000	4	6,000		...	
	Total ..	609	9,865	701	12,669	2,804	...	
Kistna ...	Rest or inspection house	1	792	3	3,010	...	...	Kondapalli, Kondavid, and Remedicherla.
	Guards' and tannah huts	...	...	10	266	...	...	
	Surveying and other instruments.	29	575	39	656	..	...	
	Tools	266	164	298	147	...	...	
	Furniture	34	298	41	354	...	...	
	Boats (staff)	1	2,280	1	2,420	...	...	
	Dingies	2		5				
	Letter-weighing scales ..	1	2	1	2	...	...	
	Miscellaneous	...	...	1	23	...	...	
	Total ...	334	4,111	399	6,878	2,767	...	

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1889-90—*cont.*

District.	Description of stock.	On hand at commencement of the year		On hand at end of the year.		Difference in value		Remarks
		Number.	Value	Number.	Value.	In favor of the year	Against the year	
			Rs.		Rs.	Rs	Rs	
Nellore ...	Rest or inspection house.	1	553	1	1,150	...	...	Udayagiri.
	Guards' and tannah huts.	7	...	* 4		...	..	* Cost not given, 3 fallen down.
	Surveying and other instruments.	46	275	45	271	...	...	
	Tools	413	342	382	331	...	...	
	Furniture	96	574	91	407	...	...	
	Scales and weights, sets	7	744	7	744	...	...	
	Cash safes	4	210	4	210	...	...	
	Boxes	19	30	18	28	...	...	
	Boats	11	4,478	11	4,478	...	...	
	Tramway	8½	32,644	8½	31,338	...	...	
	Miscellaneous	1	12	2	35	...	...	
	Total ...	618½	39,862	573½	38,992	...	870	
Cuddapah ...	Rest or inspection house.	5	10,400	† 6	11,240	...	...	† Kodur, Sanipaya, Balapalle, Mogilipenta, Horsleykonda, and Vontimetta
	Range houses	7	3,368	‡ 5	2,920	...	...	‡ Rayachoti, Sidhout, Rajampet, Badvél, and Kodur.
	Depôt and office sheds ..	1	190	4	670	...	...	
	Guards' and tannah huts	83	1,495	§ 81	1,463	...	...	§ 10 destroyed and 8 newly built.
	Surveying and other instruments.	28	328	41	381	...	...	
	Tools	532	638	360	579	...	...	
	Furniture	68	526	81	515	...	...	
	Scales and weights ...	4	226	7	565	...	...	
	Buffaloes	...	...	2	32	...	...	
	Total ...	728	17,171	587.	18,365	1,194	...	
Kurnool ...	Bungalow, head-quarters	¶ 1	11,000	1	11,000	...	..	
	Rest or inspection houses	15	4,919	‖ 4	4,700	...	...	‖ Rollapenta, Bainuti, Mantrala, and Buswapur
	Range houses	3	490	2	550	...	...	Dornal, Kistnamchettipalle; one range house sold during the year
	Guards' and tannah huts	20	498	31	2,084	...	...	
	Surveying and other instruments.	30	281	35	339	...	...	
	Tools	612	1,065	614	1,083	...	...	
	Furniture	34	190	39	206	...	...	
	Cash chest	1	8	1	8	...	..	
	Scales with weights ...	1	20	1	10	...	...	
	Total ...	717	18,471	728	19,980	1,509	...	
Bellary	Range house	...	...	1	561	...	...	Range house at Sandûr partly built.
	Rest or inspection house	1	634	1	500	...	...	
	Guards' and tannah huts	...	...	3	35	...		
	Surveying and other instruments.	23	142	25	253	...	...	
	Tools	229	210	230½	236	...	...	
	Furniture	33	354	37	319	...	...	
	Scales with weights ...	1	272	3	248	...	...	
	Letter-weighing scales.	...	..	1	15	...	...	
	Miscellaneous	...	...	1	23	.	..	
	Total ...	287	1,612	302½	2,190	578	...	
Anantapur ...	Head-quarters bungalow, with out-house.	1	6,500	1	6,991	...	...	
	Rest or inspection houses	...	...	2	5,800	...	...	Gollah, Konapanainapalle
	Guards' and tannah huts.	16	196	15	79	..	...	One shed collapsed.
	Surveying and other instruments.	42	186	43	142	...	...	
	Tools	145	281	148	276	...	...	
	Furniture	47	397	61	375	...	...	

¶ Twelve huts wrongly included under this head are now shown under "Guards' and tannah huts."

Abstract showing the value of Live-stock, Stores, Tools and Plant for the year 1889-90—*cont.*

District.	Description of work.	On hand at commencement of the year.		On hand at end of the year.		Difference in value.		Remarks.
		Number.	Value.	Number.	Value.	In favor of the year.	Against the year.	
			Rs.		Rs.	Rs.	Rs.	
Anantapur—*cont.*	Cash safe with padlock.	6	52	6	52	...	...	
	Scales with weights ...	5	375	*4	200	...	...	* One was sold for arrears of Local Fund tax on depôt
	Miscellaneous	...	...	1	23	...	...	
	Total ...	262	7,987	281	13,938	5,951	...	
Nilgiris ...	Rest or inspection house	1	1,000	†2	1,860	...	...	† Kullar and Ballia.
	Range house	3	600	5	970	...	...	
	Guards' and tannah huts	43	2,550	43	2,415	...	...	
	Surveying and other instruments.	35	278	35	235	...	...	
	Charcoal kiln	1	437	2	545	...	...	
	Furniture	45	483	59	590	...	...	
	Tools	767	1,327	780	1,440	...	...	
	Elephants	2	1,800	2	1,600	...	...	
	Do. calf	2	700	3	1,100	...	...	
	Miscellaneous.							
	Chains of elephants ...	8	180	8	160	...	...	
	Total ...	907	9,355	939	10,915	1,560	...	
	Grand Total ...	4,885½	1,17,841	4,971	1,34,592	16,751	...	

ANNUAL FORM No. 74.

Forest Department, Madras.

Statement of Elephants in Northern Circle during the year 1889-90.

PART I.

Elephants in possession of the Reporting Officers throughout the year.

District.	Names.	When purchased or otherwise obtained by Government.	Cost of monthly keep including servants and food.	Rs. A. P	Remarks.
Godávari.	Bada moti gus	Purchased in July 1888	Average per month	49 7 0	
	Pown gus	Do. do. ...	Do. do. ...	49 7 0	
	Captain Gunning ...	Do do. ...	Do. do. ...	49 7 0	
	Jung Bahadúr	Do. do. ...	Do. do. ...	49 7 0	Total expenditure Rs. 2,373 for 12 months.
Nílgiris ...	Lutchmi	Transferred from the Anamalais in January 1882	April 1889 ...	128 8 8	
	Chinna Lutchmi ...		May do. ...	125 0 0	
	Mabu Baksh	Born in January 1885...	June do ...	55 0 0	
	Akbar Baksh	Born in February 1888.	July do. ...	223 0 0	
			August do. ,,	102 0 0	
			September do. ...	104 0 0	
			October do. ...	118 12 0	
			November do ...	76 7 0	
			December do	59 4 0	
			January 1890 ...	89 8 0	
			February do. ...	58 0 0	
			March do. ...	288 0 0	Total expenditure Rs. 1,427-2-3 for 12 months.

PART II.

Elephants received in the year.

District	Names.	When purchased or otherwise obtained by Government.	Cost of keep including servants and food		Remarks
Nílgiris ...	Meenatchi	Born in April 1889 ...	...	...	

PART III.

Elephants gone off the list during the year.

District.	Names.	When purchased or otherwise obtained by Government	Cost of keep including servants and food.	How disposed of
		Nil.		

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—again the following G.O., dated 11th June 1890, No. 3583, Mis., Revenue:—

Read—the following Proceedings of the Board of Revenue (Land Revenue), dated 10th May 1890, No. 263, Forest:—

Read—the following letter from Lieutenant-Colonel J. R. McCULLAGH, R.E., Deputy Superintendent, Survey of India, in charge of No. 19 Party, to the Secretary to the Commissioners of Land Revenue, dated Ootacamund, 25th April 1890, No. 686-M.:—

With reference to the Proceedings of the Board of Revenue, dated the 7th of February 1890, Forest No. 70, paragraph 6, in which I am directed to "furnish a brief report showing the amount of work done and such details of cost as are available, together with a forecast of the outturn for the present year," I have the honor to submit a copy of the "Précis of the Annual Report for the field season 1888-89" (as submitted to the Surveyor-General), together with a tabular statement showing the distribution of cost, which, I trust, will afford the information required.

2. I also beg to submit the approximate outturn for the field season 1889-90 with an index map.

ENCLOSURE No. 1.

PRECIS of the Annual Report for the field season, 1888-89.

The Party took the field during the first week in November 1888 to undertake, in accordance with the programme detailed in the last report, the survey of the forest reserves situated in the three districts—Salem, Madura and Tinnevelly, and for this purpose a section of the Party was told off for each district. The work of the Salem section was restricted to triangulation and traversing, as this district was being entered for the first time, whereas the work of the other two sections included topography, traversing and some supplementary triangulation, owing to that previously executed (for the 1-inch survey) not being sufficiently close for the topography on the 4-inch scale, which is that adopted for the maps of the forest reserves.

2. The strength of the party was as under, viz.:—

Major J. R. McCullagh, R.E., Deputy Superintendent, 3rd grade, in charge.
Mr. C. F. Hamer, Surveyor, 3rd grade.
„ H. Todd, Surveyor, 4th grade.
„ R. Todd, Assistant Surveyor, 1st grade.
„ R. W. Senior, Assistant Surveyor, 2nd grade, up to the 14th April 1889.
„ T. J. J. Mills, Assistant Surveyor, 2nd grade.

T. Raghava Aiyangar,	Sub-Surveyor.	
V. Tiruvenkatasami,	do.	
Lachman D. Jadow,	do.	
Balaji Dhondiba,	do.	
V. L. Govindaraju Mudaliar,	do.	
P. Ramasami Naidu,	do.	
P. S. Ramaiyangar,	do.	resigned.
Ananta Row Dhondiba,	do.	
M. Gangaiah Naidu,	do.	

Fourteen Apprentices, of whom only 5 are now on the strength of the Party.
P. T. Srinivasulu, Writer.
J. N. David, Hospital Assistant.

3. The country embraced by the new triangulation is the southern part of the Salem district, but here as well as in other parts of the country the reserves are much scattered which necessitated a good deal of judgment in the laying out of the triangles so as to economise stations as much as possible where not wanted except to preserve the connection, and yet have sufficient to obtain the maximum number of points in and around the reserves. This triangulation is based on the sides of the Great Arc series, and has an area of 1,000 square miles obtained by observations at 53 stations from which 360 points and 333 heights were obtained.

The supplementary triangulation, the area of which has already been taken into account, includes observations at 42 stations, by which 176 new points were fixed and 162 new heights determined.

4. The traverses surveyed this season aggregate 240·3 linear miles and include the boundaries of the reserves surveyed in detail, as well as advance work. In connection with this part of the operations considerable difficulties were experienced owing to faulty demarcation and the lines not being cleared in time which entailed constant stoppages; the physical difficulties also were in some cases enormous owing to the differences of level which had to be surmounted, in one instance the line having to be carried over a rise of nearly 6,000 feet in a distance of about 3 miles.

5. The area topographically surveyed on the 4-inch scale covers 168·4 square miles, but the smallness of the outturn is to be attributed to the following causes, viz. :—

(*a*) The very wet and unfavorable weather which prevailed just as the Party took the field, lasting for about two months.

(*b*) The amount of sickness which existed amongst the establishment.

(*c*) The extreme difficulty of the ground to be surveyed, and the boundaries not being clear sufficiently in advance.

(*d*) The weakness of the Party in Sub-surveyors, and the loss of working-power consequent on the assistants and trained men being hampered with the instruction of Apprentices.

Moreover the circumstances of the operations having to be carried on in forests or where forest growth continually obstructed the view, caused the work to be painfully slow and arduous.

6. In consequence of the Party having suffered very severely the previous year from staying out later than was prudent, and March, April and May being notoriously unhealthy and very feverish months in the forest tracts, a recommendation was made to alter somewhat the ordinary dates of opening and closing of the operations by advancing the time of taking the field from the 1st November to the 1st September, and this arrangement having been approved, the operations were closed by the end of March, which saved the health of the establishment to some extent compared with the previous year, though there was still a large amount of sickness experienced towards the end, particularly in the Tinnevelly section.

7. During the recess the computations have been brought up to date and the fair maps of four reserved forests in Madura have been completed, namely, No. 47 Mudimalai, No. 65 Pillayar Nattam, No. 67 Alagarmalai, No. 78 Vikkramangalam. A large reserved forest in Tinnevelly has, however, not been fair mapped; it has been held over till the survey of the adjoining "reserved land" is finished as the whole will eventually form one reserve, and it will be more convenient, as well as a saving of labor and expense, to have one complete map of the whole instead of two. In addition to the regular mapping, traces of the reserves had to be prepared at the request of the Forest Department and with the approval of the Board of Revenue, which, on completion, were passed on to the District Forest-officers for the verification of boundaries, rights of way, holdings, &c., &c., and final numbering of pillars, so as to guard against any omissions, and to avoid any errors in respect to these items creeping into the fair maps. This process though adding considerably to the work in office is no doubt necessary where demarcation is as defective as has been found to be the case so far, and when surveyors have to trust very much to their own judgment aided only by the information obtained from Forest Guards and Watchers whose ideas of minute accuracy as to boundaries are sometimes of the vaguest.

8. During the field season as well as in recess the assistants worked hard and gave satisfaction, the three section officers, Messrs. Hamer, H. Todd and R. Todd, likewise Mr. Mills, being deserving of special mention. The Sub-surveyors on the whole, and when not incapacitated by illness, also did well, amongst whom Raghava Aiyangar, Lachman Jadow, Balaji Dhondiba, Ramasami Naidu, and Ananta Row Dhondiba are most deserving of mention; but the Apprentices, with a few exceptions, have turned out badly and gave hardly any return for the time, labor, and money spent on them.

9. During the coming field season the Party resumes operations in the districts of Salem, Madura and Tinnevelly.

OOTACAMUND,
20th September 1889.

(Signed) J. R. McCULLAGH, Major, R.E.,
Deputy Superintendent, Survey of India,
In charge, No. 19 Party.

ENCLOSURE No. 2.

SURVEY OF INDIA DEPARTMENT.

No. 19 PARTY (TOPOGRAPHICAL BRANCH), FROM 1st OCTOBER 1888 TO 31ST AUGUST 1889.

Season, 1888-89.

TABLE showing distribution of charges among different descriptions of survey, and the cost rate of each description.

Description of survey.	Totals of monthly allotments to sections.	Shares of charges for general section.	Shares of pay and travelling allowances of Deputy Superintendent and Assistant Superintendent.	Special contingent charges.	Shares of general contingent charges.	Total.	Areas.	Cost rates.	Remarks—Triangulation, Traversing
	RS. A. P.	RS. A. P.	RS A. P.	RS. A. P.	RS. A. P.	RS. A P.	SQ. MLS.	RS. A. P.	
Traversing and triangulation for Forest Department.	17,574 7 3	3,105 6 10	8,996 12 2	..	3,722 13 0	33,399 7 3	1,144 0 240 0	24 2 1	This statement shows expenditure for eleven months only from 1st October 1888 to 31st August 1889, the survey year of the Party having been altered so as to run from 1st September—*vide* Surveyor-General's letter No. 446-S, dated the 11th February 1889.
Detail survey on 4-inch scale for Forest Department.	12,212 0 8	2,157 14 1	6,251 9 10	..	2,586 14 3	23,208 6 10	168 4	137 13 1	
Total ..	29,786 7 11	5,263 4 11	15,248 6 0	..	6,309 11 3	56,607 14 1	..	..	

ENCLOSURE No. 3.

SURVEY OF INDIA DEPARTMENT.

APPROXIMATE outturn of No. 19 Party (Survey of India), for season 1889-90, or from 1st September 1889 to end of field season 1890, with estimate of cost to 31st August 1890.

Designation of Survey Party and name of officer in charge.	District, Pargana, or other Sub-division.	Triangulation	Traversing.	Approximate completed area in square miles.	Actual cost for six months ending 28th February including contingencies.	Probable cost for six months ending 31st August including contingencies	Approximate area remaining for survey.	Remarks
		SQ MLS	LR. MLS	SQ MLS.	RS A. P.	RS A P.		*On maps of previous surveys used as guides to boundaries*
				Surveyed on 4-inch scale.				The maps of the Madras Survey wherever available have been consulted
No '19 Party, Survey of India (Madras Forest), Lieutenant-Colonel J. R McCullagh, R.E., Deputy Superintendent	Salem .. .	710	288 4	..	..	..	About 13,600 square miles.	*On demarcations in the field.*
	Madura	472	150 2	78 0	..	..		At the commencement of the field season there was some trouble in Madura and to a less extent in Salem owing to boundaries not being sufficiently cleared and demarcated, but there was subsequently considerable improvement as the work went on. In Tinnevelly the arrangements were very good and little or no difficulty was experienced
	Tinnevelly	..	190 1	133 4	..	..		
				Reserved forests topographically.				*General.*
Total of Approximate ..	Outturn	1,182	628 7	211 4	43,637 4 7	* 24,560 9 10		The outturn of topography, though a slight improvement on last year, is still a good deal under what was expected, but this is in a great measure due to the number of hands that have to be employed on the traverses, the time occupied in surveying the boundaries being very great owing to the difficulties of the ground. The work in the Palnis was greatly retarded owing to unfavorable weather during nearly the whole season There was a good deal of sickness, one apprentice died and three absconded, thus weakening still more an establishment which is already very weak in Sub-surveyors, especially in experienced ones, and though every effort is being made to keep up the strength, it is with the utmost difficulty men can be obtained willing to face work in the forests and hills.
		SQ MLS						
Approximate area prepared in advance	Triangulated ..	1,010	..	..	..	..		
		LR. MLS						
	Traversed . ..	328	..	..	..	..		

* This is the actual and probable expenditure for the survey year, viz., from 1st September 1889 to 31st August 1890

N B.—To be accompanied with Index Map of season's operations, and to be submitted at the close of the field season.

ENCLOSURE No. 4.—Index Map.

Resolution—dated 10th May 1890, No. 263, Forest.

Submitted to Government, with reference to paragraph 7 of G.O., dated 13th December 1889, No. 989.

(True Copies and Extract.)

(Signed) M. HAMMICK,
Secretary.

To the Secretary to Government, Revenue Department,
with an Index Map.

Copy to the Conservator of Forests, Southern Circle.
" " Deputy Superintendent, Survey of India,
in charge, No. 19 Party.
" " Conservator of Forests, Northern Circle.
" " Examiner of Forest Accounts.

Order—dated 11th June 1890, No. 3583, Mis., Revenue.

Recorded.

2. The explanation called for from the Surveyor-General of India in Board's Proceedings, dated the 29th January last, Forest No. 97, Mis., is awaited.

(True Extract.)

(Signed) C. A. GALTON,
Secretary to Government.

To the Commissioners of Land Revenue.

READ—also the following Proceedings of the Board of Revenue (Land Revenue), dated 6th September 1890, No. 545, Forest:—

MR. W. S. WHITESIDE.

Read—the following letter from A. W. PEET, Esq., Acting Conservator of Forests, Northern Circle, to the Secretary to the Commissioners of Land Revenue, dated Madras, 31st July 1890, No. 1136:—

I have the honor to send the annual Administration Report for the Northern Circle for the year 1889-90. An attempt has been made to simplify the returns, and abstracts of all the forms have been made out.

2. In order to attempt to meet the wishes of Government and make the report less bulky, it was agreed, in consultation, to give in detail in print this year only such forms as it seemed necessary to give in detail; and to give the rest in abstract.

3. In order to allow for check, however, the detailed figures are to be sent in manuscript for the information of the Board and Government, just as they would have been sent to the press. There is no saving of work in the Circle offices, but there is a saving of time and expense in printing, and a reduction in the bulk of the report. As a matter of fact this year all the detailed forms for this Circle were printed before these proposals were settled.

4 In accordance with these proposals forms Nos. 59-A, 59-B, 59-C, 59-D, 59-E, 60, 61, 62, 63, 64, 65, 66, 67 and 71 are given in detail, and the rest in abstract.

ENCLOSURE No. 1.—Administration Report for 1889-90.

ENCLOSURES NOS. 2, 3 AND 4.—Sketch-maps.

Read—the following letter from Colonel I. CAMPBELL WALKER, Conservator of Forests, Southern Circle, to the Secretary to the Commissioners of Land Revenue, dated Madras, 16th August 1890, No. 1313:—

I have the honor to submit herewith the annual report (in print complete) on the Forest Administration of this Circle during 1889-90, and to request that the proof copy already supplied may be returned.

2. I regret to have to state that none of the district reports, except those from North Coimbatore and South Malabar, were received on the due date, viz., 15th May. The reports from South Arcot and Salem were about a week and that from South Canara three weeks late. Supplemental statements and returns continued to be received up to the end of June. The work in my office had therefore to be done as usual at very high pressure in view to begin printing on the 15th July, on which date the report is due with the Board in *manuscript*. If the Board wish to have the report *in print* on the 1st August as would appear from its Proceedings of the 11th instant, the district reports should reach me not later than the 1st May, and Code paragraph 247 would have to be amended accordingly by the Code Committee, subject to the approval of Government.

3. All the district reports, except Tinnevelly, fail more or less to furnish information in accordance with instructions issued for the guidance of District Forest-officers. This entailed much extra labor on my office, and in most cases information had to be collected or verified from my office records.

4. The instructions of the Board in paragraph 2 of its Proceedings, dated 6th November 1889, Forest No. 541, on the subject of information regarding natural reproduction, have received due attention. Full information regarding progress of forest settlement has also been furnished in the manner indicated in paragraph 5 of G.O., 5th March 1889, No. 153. These have somewhat increased the length of the report, which would otherwise not have exceeded 25 pages.

5. Referring to paragraph 16 of the Government's review of the last annual report, the bulk of the appendices has, in communication with the Acting Conservator, Northern Circle, been reduced by substituting abstract statements for Code forms Nos. 60, 61, 68, 69, 70, 71, 72-A, 72-B and 73-B. A careful examination of these abstracts will show that whilst omitting the rangewar details, no information which the Board and Government are likely to require for any *district* will be found wanting.

The abstract returns of forms relating to timber and other forest produce have been so prepared as to facilitate check from the time of felling or collection to that of final disposal.

6. These changes, however, do not reduce the work of my office, rather the contrary, as the abstracts can only be prepared after compilation of the usual detailed forms from the district returns. The detailed forms are, therefore, available in my office in manuscript if required by the Board. The cost of printing of bulky returns is of course saved, and the abstract forms are more handy and convenient for reference by the Board and Government.

If the system of abstracts is approved, it may in future be extended to the lists of reserved forests and lands (form 59), and areas under fire-protection (form 62), necessary alterations being made in the Departmental Code.

ENCLOSURE.—Administration Report for 1889-90.

Resolution—dated 6th September 1890, No. 545, Forest.

The Board resolves to submit to Government its annual review of the work of the Forest Department during 1889-90, as given in the reports of the two Conservators: for convenience of comparison, the same arrangement has been adhered to, as was adopted last year.

2. The reports were received from Conservators by the middle of August in print: this is extremely creditable, seeing how late some of the district reports were submitted to them, and the attention of Collectors will again be drawn to the need of greater punctuality in the matter.

3. The establishment for the Presidency consisted of the following officers:—

	Southern Circle.	Northern Circle.
Conservators	1	1
Deputy Conservators	8	4 (one on leave).
Assistant Conservators	5	7 (one on leave).
Sub-Assistant Conservators	7	6
Rangers	33	24
Foresters	77	49
Forest guards	396	348

The only change made was the formal constitution of Tanjore and Trichinopoly as a single Forest division.

The Northern Circle was under the charge of Mr. Gamble and the Southern Circle under the charge of Mr. Peet, acting, throughout the year; the usual remark as to the insufficiency of the establishments has to be made, but the Board trusts, for the last time. The proposed permanent scale, which was before Government at the beginning of the year, was not approved of, and a new one was called for, which will shortly be submitted. The Conservators mention that Rangers had to act as District Forest-officers, and Foresters and Guards as Rangers, and it is certainly not to the interests of Government that this should be so.

4. The gross receipts of the Department were Rs. 15,57,627 and the expenditure Rs. 11,65,358, leaving a balance of Rs. 3,92,269.

5. Area of Forests.—The following statement shows the changes in areas made in the different classes of forests under the control of the Forest Department:—

—	Area on 31st March 1889.	Added.	Excluded.	Area on 31st March 1890.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
A. Reserved forests	3,431	314	6	3,739
B. Reserved lands	11,857½	887½	417½	12,327½
C. Other forests	1,669	110½	303	1,476½
Total ..	16,957½	1,312	726½	17,543

Note.—Leased forests are included under Reserved forests and Reserved lands.
Forests reserved under previous rules and other orders are included under C.

Details of the various changes are given in form 59, which the Board is glad to note has been prepared with care.

The following statement shows the area of reserved forests (including leased forests) and reserved lands in each district, as well as the percentage of reserved areas to the uncultivated area. The Southern Circle is still, it will be seen, considerably in advance of the Northern Circle in regard to the finally settled area; the last column of the Conservators' statements, though the variations are considerable, *i.e.*, from 72·9 to 2·8, gives a general average of 34 per cent., which must be considered satisfactory: from this doubtless considerable areas will be deducted during settlement especially, in North Coimbatore, the district in which the 72·9 percentage occurs, but, on the other hand, large areas will also be added in other districts, in which selection is still incomplete, and the final figure is likely to be higher rather than lower:—

Northern Circle.	Reserved forests excluding forests reserved under previous rules.	Reserved lands.	Percentage of reserved areas to uncultivated area of the district.	Southern Circle.	Reserved forests excluding forests reserved under previous rules.	Reserved lands.	Percentage of reserved areas to uncultivated area of the district.
	SQ. MLS.	SQ. MLS.			SQ. MLS.	SQ. MLS.	
Ganjam	18	527	150·96	Chingleput	93	85	19·41
Vizagapatam	14	10½	31·81	North Arcot	377	576	56·92
Godávari	103½	917	111·53	South Arcot	119	430	24·44
Kistna	69	616	39·16	Salem	643	541	62·61
Nellore	54½	543½	29·22	Trichinopoly	137	99	31·13
Cuddapah	361	1,668	45·54	Tanjore	9	16	2·28
Kurnool	..	1,715½	92·72	Coimbatore	685	1,848	179·39
Bellary	3	377½	23·81	Madura	348	214	42·00
Anantapur	13½	262½	13·96	Tinnevelly	295	295	77·52
Nilgiris	199½	169	131·61	Malabar	158	443	17·77
				South Canara	49	974	68·24
Total ..	826	6,806½	..	Total ..	2,913	5,521	..

6. The actual additions during the year were in the Southern Circle, 113 square miles of reserved forests and 223 square miles of reserved lands, and in the Northern Circle, 195 square miles of reserved forests and 247 square miles of reserved lands. The reserved forests lay chiefly in Godávari 92½ square miles, Kistna 50 square miles

Nellore 48½ and Salem 45 square miles. Besides this, a systematic forest scheme for each separate district is being elaborated and orders have now been passed by Government in the case of the following districts, viz., Vizagapatam, Godávari, Kistna, Bellary, Chingleput, Trichinopoly, Tinnevelly, Nílgiris, Salem and South Malabar, determining, with some attempt at finality, the areas which shall be reserved for forest purposes, the method in which the district requirements in the way of timber, fuel and grazing are to be met, and the provision which is to be made for the necessary and customary needs of the villagers in the shape of petty privileges in these schemes, each district is treated by itself as a complete unit, and in the case of these ten districts, therefore, though actual settlement is incomplete, it can yet be seen now, with practical accuracy, what their final forest aspect will be. By the end of the present year, the Board trusts that every district in the Presidency will have been similarly dealt with, and on paper and in theory, at any rate, the forest organization of the Presidency will then be complete.

7. The question of free village forests and pastures is one that naturally forms a part of the district organization, yet it is one that in the present stage of settlement has had to be more or less pushed into the background. The Nílgiris, therefore, is the only district in which the matter is at all complete, though in most other districts, and especially in Nellore, it remains under consideration, and is not lost sight of. The Board looks on it as one of some importance as freeing the hands of Forest-officers for more complete control of Government areas and as mitigating, to some extent, the rise in prices, especially of fuel and grazing, which the great increase of forest revenue betokens. There appear to be only three ways of meeting the needs of the villagers in this respect:—

i. From the Government reserves.
ii. From areas, specially set aside as village pastures.
iii. From unreserved waste.

The first is, perhaps, the best in theory, but it is difficult to work in practice and means the reservation of larger areas; the last is the simplest and easiest now, but is likely to be the most troublesome in the future, when the waste areas have disappeared; the second is the one that commends itself most to the Board, provided sufficient stress is laid on the necessity for the protection of the area from the plough which is practically all that separates it from the third.

8. *Settlement.*—The following statement shows the progress made in settlement during the year in the form required by the Government of India:—

Circle	Unreserved forest area, 1st April 1889.	Added during year (net)	Total.	Area notified under section 4, 1st April 1889.	Added during year.	Notified under section 16 during year.	Balance notified under section 4, but unsettled	Total unreserved area on 31st March 1890.
1	2	3	4	5	6	7	8	9
Southern Circle	6,044	18	6,962	2,686	385	113	2,958	6,962
Northern do.	6,582½	259½	6,842	6,244	406	195	6,455	6,842

The area finally notified is again, the Board regrets to have to observe, very small, and matters remain in much the same condition as they were last year, that is to say, there is a very large area which is actually settled, the final notification of which is delayed either by protracted appeals, and second appeals or by the necessity for further revision of boundaries, or altered maps, for the preparation of which District Forest-officers with difficulty find time Forest Settlement-officers, moreover, have so many districts on their hands at once, that, if alterations in any particular block are necessary, it may be weeks or months before they can arrange to return to it to carry them out; and even then, they may find that District Forest-officers cannot attend; this is to a certain extent unavoidable; something can be done to arrange tours more regularly, but the Act necessitates such long delay between the notifications, that it is a waste of time to tie an officer down to a single district: in

regard to its own office, the Board can only say that the establishment is already overworked; nor is the scrutiny of lengthy statements, many of them filled with figures, work that can with safety be pressed on too hurriedly: it trusts, however, that this will be the last occasion on which it will have to refer to these difficulties; already within the current year, final notifications for some 1,270 square miles have either been already issued, or are before Government for publication or are in the press; the revision of the papers of some of the larger areas is complete, and with the final notification of such large blocks as those of the Tinnevelly ghât forests, the Kollegál reserves in North Coimbatore, the Nallamallais and Veligonda hills in Kurnool, and the upper taluks in Godávari, the balance now outstanding will be very materially diminished: the Board has recently, too, sanctioned the employment of four temporary surveyors in the Southern Circle for the special preparation of settlement maps, and hopes that one of the chief causes of delay will by this means be remedied.

The following statement shows the state of progress at the close of the year under report:—

	Total under settlement.		Total finally notified.		Total settled and reported but not notified		Total settled but not reported		Settlement proceeding.	
		SQ. MLS.		SQ. MLS.		SQ. MLS.		SQ. MLS.		SQ. MLS.
Northern Circle—										
Ganjam	35	529	3	18	16	271	3	16	13	224
Vizagapatam	6	24½	1	14	..	..	..	..	5	10½
Godávari	76	1,020½	6	103½	29	241	2	20	39	656
Kistna	55	685	23	69	24	271½	1	78	7	206½
Nellore	120	579	37	54½	38	146½	13	32½	32	346½
Cuddapah .. .	109	1,838	19	351	55	1,027	..	..	35	460
Kurnool	14	1,715½	..	..	10	1,680	..	..	4	35½
Bellary	55	318	2	3	23	82	1	5	29	228
Anantapur	44	276	5	13½	15	91½	2	28½	22	142½
Nilgiris	108	295½	51	199½	54	30½	2	1½	1	64
Total ..	622	7,281	147	826	264	3,841	24	181½	187	2,432½
Southern Circle—										
Chingleput	79	156	20	93	38	44	16	14	5	5
North Arcot	92	858	44	377	40	326	1	30	7	125
South Arcot	85	413	26	119	36	160	8	53	15	81
Salem	108	982	70	643	22	170	13	153	3	16
Trichinopoly	74	197	33	137	40	60	1	..	..	..
Tanjore	24	19	17	9	6	10	..	..	1	..
North Coimbatore .	11	879	6	119	..	..	4	657	1	103
South Coimbatore ..	10	566	10	566	..	..	..	..	..	..
Madura .. .	94	500	76	348	16	140	2	12	..	..
Tinnevelly	39	589	21	295	18	294	..	..	..	..
North Malabar ..	13	261	6	118	1	..	6	143	..	..
South Malabar ..	21	299	6	39	..	..	10	19	5	241
South Canara	27	152	14	50	5	56	4	87	4	9
Total ..	677	5,871	349	2,913	222	1,260	65	1,118	41	580

It shows a total of 3,739 square miles finally notified, 5,101 square miles settled and reported on, but not yet finally notified, and 1,299½ square miles settled but not reported on; in all, 10,139½ square miles settled; besides this settlement is pending on 3,012½ square miles. This result shows, the Board thinks, that satisfactory work has actually been done, though it is not possible yet to show it in a complete state. In Kurnool 1,680 square miles, Cuddapah 1,027 square miles, and Kistna 350 square miles are practically completed: in Ganjam, Godávari and Nellore progress was fair, and in Bellary and Anantapur it was bad: in the Southern Circle, North Coimbatore, Salem, North and South Arcot, Tinnevelly and Madura are the most forward districts, the information given, however, is scanty, and it is impossible to gather from the figures what particular stage the unsettled blocks have reached: in future years Forest Settlement-officers will report to Collectors on the subject, and the information will be incorporated in the Conservators' annual reports. The Forest Settlement-officers in the year were Messrs. Jones, Pinto, Saralbhalingam Naidu and Jagannadha Row, and their total cost Rs. 39,368.

9. DEMARCATION.—One thousand two hundred and ninety miles in length were demarcated in the Southern Circle at an average cost of Rs. 10-5-0 a mile; what length exactly was done in the Northern Circle is not stated, the Conservator in his abstract

giving area and not length; but, excluding preliminary work, some 700 miles of new and 800 miles of reclearing appear to have been completed as well as 32½ miles of fencing. The rates, as usual, vary from about Rs. 20 downwards, the highest occurring in North Coimbatore, Chingleput and Godávari. In the first case, the work is reported to have been also unsatisfactory, owing to a lack of proper supervision; and in the second case, it was apparently due to the clearance of new lines, in place of lines wrongly cleared in previous years; but in Godávari, Mr. Battie's work is said to have been thorough and reasonably cheap. Fencing, of course, costs more: the 3 miles in Godávari, which consisted of a trench and mound, with palmyra and screw-pine hedge, costing Rs. 97 a mile, and that in Anantapur Rs. 92-8-0 a mile. In other cases, too, the demarcation work, no doubt, partakes partly of the nature both of fencing and of fire-tracing, but the distinction between the three is difficult to maintain in practice, and varies much according to the nature of the particular block being demarcated. In the Southern Circle, a good deal of work was done in clearing boundaries for the special forest survey party to work on: Rs. 3,790 being so spent in Salem at an average of Rs. 7 a mile and Rs. 1,062 in Tinnevelly at Rs. 8-8-0. Notices under the Boundaries Act were also served on private owners in four cases in Salem and in one in South Arcot; of the former, three obeyed the notices, and in the latter, the work was done by the department and its cost of Rs. 140 is recoverable from the owner. In North and South Malabar work was backward, owing to sickness and want of labor; but even so, more should have been done. In the Northern Circle, good work was done in most districts: 235 miles being durably demarcated in Anantapur at a cost of Rs. 9-4-0 a mile, and 124 miles in the Nílgiris at a cost of Rs. 15-8-0; in Cuddapah, 117 miles were cleared for Rs. 17 a mile, in Ganjam 90 miles and in Godávari 58 miles finally and 73 in preliminary fashion. The importance of maintaining lines once cleared and keeping up pillars, &c., appears to be generally understood, 209 old lines being recleared in Godávari, 167 in Ganjam and 164 in Nílgiris, mostly at small cost, though in some cases, where the work included the digging out of stumps, as in Ganjam, it was high, and a large number of posts, pillars, cairns and survey marks were renewed. The total amount spent on demarcation was Rs. 31,548. The Conservator, Northern Circle, should give the number of miles done in future years, not the area surrounded.

10. Survey and Working Plans.—The chief work that is being done in the Presidency in the direction of survey is that of the Government of India Survey Party, specially detailed for forest duty in this Presidency. It worked wholly in the Southern Circle, in the districts of Salem, Madura and Tinnevelly, and within the year it completed 1,182 square miles of triangulation, 628 linear miles of traversing and 211 square miles of topography. Up to date, only 480 square miles of actual topography have been turned out during the two years that the Party has been in working, instead of the estimated 600 square miles a year, and the cost has been Rs. 226 per square mile instead of the estimated Rs. 70. The causes are said by the Deputy Superintendent of the Party to be insufficient clearance of the boundary lines in advance, especially in Madura, sickness, especially on the Palnis, the difficulties of the ground and the want of experienced subordinates: Rs. 4,599 appears to have been spent by the Forest Department in clearing lines for this Party. The Madras Survey Department took up the survey of the Kodaikánal settlement on the Palni hills, and that of the reserved areas in the Bellary district, completing the maps of seven reserves and nearly completing those of eleven more. A small temporary party attached to the District Forest-office is said also to have worked under the Deputy Superintendent of Survey, but to have done no work. The Conservator will report fully on this. Departmental surveys were made mostly at small cost for settlement purposes, a sketch-map being required to accompany every notification of a settled area, and the notification being, as already pointed out, frequently delayed for long periods for want of it. In South Canara and Ganjam a small amount of departmental work was done, 75 square miles being done in the former district at a cost of Rs. 972 and Rs. 500 odd being spent in the latter district; but departmental surveys generally have been stopped in accordance with the orders of Government. Working-plans were adhered to and found reliable in the case of the Sholakarai block in South Coimbatore, the Cauvery plantations in Trichinopoly, the Srírharikót jungles in Nellore and the blue-gum plantations on the Nílgiris. In the case of the Chinnar and Nóyil-Vellingiri working circles in Coimbatore, the Tekadi teak forest on the Anamalais, and the Srírharikót and North

Arcot casuarina plantations, revision is needed. In other districts, annual plans of operations are all that can as yet be framed, but these were generally worked upon and fellings in most of the forests proceed now on reasonable lines and under control, and not in the haphazard and wasteful system of former years: the collection of statistics for the preparation of proper working-plans at the same time is being carried on, and plans for some twelve more reserves are almost completed. The matter is, however, one that necessarily awaits both settlement and organization and progress must be slow. The provision of railway fuel receives attention.

11. FIRE-PROTECTION.—In this important matter satisfactory results were obtained; in the Southern Circle, 408 square miles were added to the fire-traced area of last year, 99 per cent. escaped, as against 97 per cent. in last year, and the cost was reduced from Rs. 13 to Rs 10-10-5 per square mile. In the Northern Circle, 1,033 square miles were added to the area attempted, 92·5 per cent. escaped, as against the 86 per cent. of last year, and the cost was reduced from Rs. 8 to Rs. 6-10-0 per square mile. The figures are possibly not quite accurate, but so far as they go they show a considerable improvement on those of previous years and must be considered satisfactory. The cost may seem high, but the Board pointed out in last year's report that it was impossible to compare the Madras figures with those of Bombay, and the protection of the large areas of parched grass and scrub must necessarily be costly.

The following statement shows the areas attempted and the results obtained by districts:—

Districts.		Area attempted	Area burnt.	Expenditure during the dry season of 1889-90.	Cost up to end of 1889-90.
		SQ MILES.	SQ MILES.	Rs.	Rs.
Northern Circle *	Ganjam	530·84	29·42	925	4,278
	Vizagapatam	36·81	·06	225	225
	Godávari	198·04	·70	476	872
	Kistna	153·21	1·62	722	4,628
	Nellore	117·19	10·50	936	2,380
	Cuddapah	756·27	81·09	5,214	30,963
	Kurnool	63 56	6 29	694	4,289
	Bellary	389 08	29 67	3,227	16,274
	Anantapur	90 34	1 20	1,362	8,108
	Nílgiris	364 32	39 83	2,779	16,460
	Total ..	2,699·66	200 28	16,560	88,477
Southern Circle †	Chingleput	36·40	0 003	549	3,315
	North Arcot	856·29	4·92	2,081	17,794
	South Arcot	203·50	2·06	1,420	6,495
	Salem	48·40	0 51	1,629	16,645
	Trichinopoly	87 11	0 34	474	2,337
	Tanjore	..	..	..	..
	Coimbatore	77 41	0·06	1,560	9,990
	Madura	303 83	3·49	3,885	27,319
	Tinnevelly	150 37	2·39	4,382	16,069
	Malabar	121·00	0·34	2,682	17,623
	Canara	25 59	0 20	1,332	3,687
	Total ..	1,909·90	14 31	20,194	1,21,274

* NOTE.—Cost of area protected is Rs. 6-10-0 a square mile.
7 41 per cent of the area attempted was burnt.

† NOTE.—0 73 of the area attempted was burnt.
Cost of area protected is Rs. 10-10-5 a square mile.

North Arcot comes first, with 856 square miles attempted and only 5 square miles burnt: it is in this case that the Conservator appears to think the figures unreliable, since he knows that the establishments there are inadequate, and the risk of fire great; it is creditable to the District Forest-officer, Mr. Sheffield, if his figures can be relied on. Cuddapah comes next with 756 square miles attempted and 81 burnt; only 320 square miles were attempted last year, and the increase is due to the inclusion by the District Forest-officer, Mr. Lodge, of the large areas of the Seshachalam reserve, and the Lankamalais; of the additions, however, only a portion was saved; then come Ganjam, 530 square miles, Bellary 389 square miles and the Nílgiris 364 square miles, in all cases an increase on last year; in the last, almost the whole of the important Mudumalai forest was saved. Madura follows with 303 square miles the same as last year; a few small fires occurred here, but no great harm

was done, and Mr. Gass has exceptional difficulties in the shape of the numerous zemindaries bordering on his forests. The figures are less in the remaining districts, but good work was done in nearly all; and in some of them, perhaps, the protection was more complete and effective than in districts which show on paper larger areas. Godávari and Anantapur in the Northern Circle, and Chingleput, North Malabar and South Coimbatore in the Southern Circle come within this category. Kurnool with its large blocks on the Nallamallais and North Coimbatore with its large areas in Kollegál and on the slopes of the Nílgiris were bad. In Salem, fires were caused by sparks from the engines, and Mr. Hooper is taking steps to fire-trace the railway line. The rates varied, but were only exceptional in the case of South Canara; the unmanageable shape of the blocks there is said to be the cause of it, but the Conservator is investigating the matter. The weather was wet on the West Coast districts, and the south-west monsoon was early; but the north-east monsoon was late and the eastern districts suffered for that reason. The Conservator, Southern Circle, says that 4,566 square miles of *unprotected* forest or 70 per cent. escaped, and the Board can only hope that it was so; but the temptation to wood-cutters, herdsmen and junglemen to fire forests is so great, and the Madras forests lie so open to attack, that it is a little unexpected if the unprotected area escaped.

12. Grazing.—The following table shows the receipts from grazing for the last four years :—

Districts.		1886-87.	1887-88.	1888-89.	1889-90.
1		2	3	4	5
		Rs.	Rs.	Rs.	Rs.
Southern Circle ..	Chingleput	641	1,244	2,695	2,087
	North Arcot	1,423	30	3,318	4,466
	South Arcot	1,306	2,226	1,930	2,683
	Salem	24	..	5,257	12,016
	Trichinopoly	2,328	5,140	5,893	6,368
	Tanjore	414	593	751	739
	Coimbatore	27,707	34,633	29,677	33,432
	Madura	1,392	1,524	2,462	2,321
	Tinnevelly	313	609	312	158
	Malabar	117	27	101	115
	Canara	..	12	..	..
	Total ..	35,665	46,038	52,396	64,375
Northern Circle ..	Ganjam	5	..	..	7
	Vizagapatam	..	..	20	23
	Godávari	971	947	1,456	1,959
	Kistna	37,927	38,711	49,442	48,541
	Nellore	4,683	12,784	14,769	16,036
	Cuddapah	174	1,227	2,018	3,814
	Kurnool	1,109	4,888	6,232	5,419
	Bellary	337	403	442	878
	Anantapur	6	16	957	1,154
	Nilgiris	326	797	2,123	1,639
	Total ..	45,538	59,773	77,459	79,470

It will be seen that the receipts are rising; this is in accordance with the policy of Government that herd cattle should be allowed (under control) into the reserves on payment of fees, which should rise gradually from small beginnings to the sanctioned scale, but care must be taken that the rise *is* gradual, and the increase from 5,000 to 12,000 in Salem should have been explained; there is a rise also in Coimbatore, but this is only to the figures of 1887-88; in other districts the figures seem to call for no remark. As usual, Kistna, where the practice has been in force for a long time, heads the list with 48,541; then comes North Coimbatore with 23,091, and then Nellore 16,036, Salem 12,016 and South Coimbatore 10,341. As a general rule, some of the reserves are closed to grazing, while the rest remain open; steps have been taken to exclude goats and also sheep, one variety of which the Conservator, Southern Circle, says is as bad as a goat. The Board is not acquainted with that particular variety, but, as a rule, sheep are comparatively harmless, and since the poorer ryots must have something less costly than ordinary cattle to eat and milk and use for manuring purposes and, generally speaking, to invest money in, the grazing of sheep should, where possible, be permitted. It is inadvisable to attempt to discourage both

sheep and goats, and the policy adopted, therefore, should be to encourage the former at the cost of the latter. Neither Conservator gives definitely the information called for in G.O., dated 7th May 1890, No. 314. In Cuddapah full fees on cattle are already charged, but it is suggested that extra fees should in addition be charged on alien cattle, mostly from Nellore. The Board is opposed to any such increase as a mere matter of forestry, since the distance these cattle have to come is itself a sufficient tax ; if the discouragement of them is advisable on other, *e.g.*, police grounds, that is a different matter. In most districts, half rates were charged and these should not be hastily raised ; when the grazing inside reserves is correspondingly improved, the rates can be raised, but till then, — though it is perhaps a case of putting the cause after the effect,— the matter should be proceeded with very gradually. The Board does not agree with Colonel Campbell Walker that there should be a general policy of auctioning out all grazing on reserved areas—if this is what his remark about "offering the pasturage for sale" means ; it may be advisable to do so in special cases, such as padugais and plantations that have been created by the Forest Department, but to do so generally would be most inadvisable. The grazing on unreserved lands, of which so much is generally made, as being "free to all," is in the hot weather, the time when it is most wanted, practically speaking *nil*, and the purchasers of the grazing within reserves who would then have a virtual monopoly of all the grazing in the district, would have to bid high for it and would be able to exact a corresponding price for it from the ryots. The system might be easier to the Forest Department, but would be dangerous to agricultural interests, and the statement that under this system "there would be no compulsory fees and therefore no ground for complaint" is absurd. The Board is quite of the opinion that grazing within *forest* areas is always an evil, but it is, under present conditions, a necessary evil, and Forest-officers must realize that, though admittedly a difficult, still it is a necessary part of their duty to provide for it, and that according to their success or otherwise, in doing so, will they be judged. Departmental attempts at hay-making in North Arcot were not a success, but the ryots were subsequently allowed to try hay-making for themselves and their efforts were more encouraging, so that there is likely to be some demand for a continuance of the practice. The Board agrees with the Conservator that everything that can be, should be done in this way to encourage the ryots to cut or silo, or dry the grass in reserved areas for themselves.

13. *Police.*—The number and results of prosecutions, as compared with those of last year, are shown below :—

—	Cases pending.	New cases in the year.	Convictions.		Acquittals.		Compounded.		Withdrawn.		Cases pending at the close of the year.
			Cases.	Persons	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
1	2	3	4	5	6	7	8	9	10	11	12
Northern Circle—											
1889-90 ..	281	1,355	680	1,672	287	954	511	937	..	..	158
1888-89 ..	125	1,733	834	1,964	316	906	427	985	*102	..	179
Southern Circle—											
1889-90 ..	207	2,679	904	2,157	385	1,308	1,187	2,750	92	246	318
1888-89 ..	173	2,201	860	1,827	334	1,235	897	2,269	76	226	207

* These 102 cases were actually pending at the end of 1888-89 Their entry under cases "withdrawn" in the Board's statement was a mistake , hence the increase in the number of cases pending at the beginning of 1889-90.

In the Northern Circle, the number of cases was considerably less than in last year and the percentage compounded considerably greater, 35 per cent. as against 27 per cent. ; the percentage of acquittals was about the same, 19 against 20. In the Southern Circle, the number of cases was considerably greater, the percentage of cases compounded greater, 46 against 41, and the percentage of acquittals about the same, 30 against 28 ; a higher figure than that of the Northern Circle. The offences, it will be seen from Form 63, were mostly unauthorized felling or appropriation of produce—1,809 in the Southern Circle and 1,090 in the Northern Circle, and grazing without permission, 495 in the Southern Circle and 141 in the Northern Circle. The figures are largest in

Trichinopoly, Salem, South Arcot and South Canara; in other districts they do not appear excessive, but in the districts named, and especially in Trichinopoly where the number of new cases was 646, the causes for this large number should be explained. Complaint is made from both circles that the staff is inadequate, and instances are given of defiance of the law on the part of the public. There is no doubt some ground for the complaint, more particularly in out-of-the-way tracts, such as North Coimbatore, but the description drawn by the Conservator, Southern Circle, must, the Board thinks, be very much overdrawn; indeed, if it is not, it reflects but little credit on the Forest Department. The particular case quoted, in which Mr. Morgan met a gang of 1,000 people shooting and hunting on the Eastern slopes of the Nilgiris, seems exceptional, and details of it should be reported for the information of the Board; but the other instances quoted are not conclusive; for instance, the eight soldiers referred to as camping for a month near Vellamundi and shooting without licenses had probably no idea that they were "setting the law at defiance," and, if they had, it would seem to have been easy to have ascertained who they were and either reported them to their own Commanding officer, or to the Collector. In the only detailed case given in the Northern Circle the deficiency lay, as pointed out by Mr. Peet, not in the number of the guards, but in their honesty. Government will no doubt be quite prepared to strengthen the staff on due proof of its inadequacy, and the Board which fully agrees with Conservators that it is inadequate to the increasing needs of the department, proposes shortly to address Government on the subject; but descriptions of the sort, given by Colonel Campbell Walker, defeat their own purpose. Petty thefts doubtless are numerous, but open lawlessness is another and more serious matter, and complaint of it ought to have been more fully substantiated. The power of compounding has evidently been freely resorted to, and in many cases it is, no doubt, an acceptable and proper method of dealing with petty offences, but care must be taken that it is not allowed to degenerate into practically condoning the more serious ones. The particular case of Goomsur, where it is reported to have been had recourse to, because owing to the hostility of the Sub-Magistrate, it was impossible to obtain a conviction in the ordinary way, should be reported to the Board. The percentage of acquittals was high in Chingleput, North Arcot, Madura and Tinnevelly; compounding was most resorted to in South Arcot and Trichinopoly; in the latter case, it was probably properly made use of. The suggestion made by Colonel Campbell Walker that gun licenses should contain a note that a special license should be obtained before shooting in reserved forests, commends itself to the Board.

14. Natural Reproduction.—This, so far as the mere possibility of growth goes, has now got beyond the experimental stage, and it may be said that *given protection from fire and cattle*, there must be regrowth, varying according to the nature of the soil, &c., but sure and certain even under the most adverse circumstances; and since virtually the whole of the reproduction in the forests of the Presidency must be natural, the fact is satisfactory. The likes and dislikes of particular trees, however, in the matter of shade, undergrowth, moisture and the like, have evidently still to be studied, as also the effects of such individual peculiarities as time of seeding—*i.e.*, whether before the firing season or after—which species reproduce best by seedlings and which by coppice, &c. Complaint is made from certain districts, *e.g.*, North and South Coimbatore and Madura, that the rank undergrowth and long grass which appear to be the first effects of protection choke the very seedlings: the Conservator proposes, as a remedy, to clear away the undergrowth: the result should be reported, but it will be difficult to carry out this proposal over large areas, and it is possible that all that is really needed is more time and that the seedlings will eventually acquire roots strong enough to enable them to push through: complaint is also made that reproduction from seed of teak, in teak forests, *e.g.*, North and South Malabar, is almost entirely absent; and the District Forest-officer ascribes this to the seeds failing to reach the ground, owing to the thick covering of fallen leaves: it was pointed out, however, by the Conservator, Southern Circle, in his last year's report that rosewood seedlings appeared in the Sholakarai block, in a forest in which mature rosewood trees did not occur, and it is possible that there may be some similar sort of natural rotation in the case of teak. In regard to young teak and *Hardwickia* seedlings withered by drought, the

Conservator points out that these are often making underground growth, and that in a year or two their roots may be long enough to enable them to withstand the dry weather. The reproduction of *Terminalia tomentosa* in some of the North Malabar forests has been greatly checked by monkeys and squirrels eating the seeds. In regard to the coppicing of casuarina, the Board is disposed to agree with the Conservator, Southern Circle, that it is unnatural. Satinwood and *Terminalia tomentosa*, however, are said to coppice well in Bellary and *Eucalyptus* on the Nílgiris. The general reports from the districts are satisfactory, showing good growth where protection has been good, even on the most unpromising areas; and a strong reproduction of trees of the more valuable kinds, such as teak, rosewood, *Hardwickia*, sandal, satinwood and *Pterocarpus marsupium*; there was good reproduction in the blocks cut over for the railway fuel supply in Kurnool, but it was much injured by fires: the coppice reproduction in the Sholakarai block is said to have been admirable, teak, rosewood and *Pterocarpus marsupium* appearing in large numbers, and many of them being already over 5 feet high; in some of the Chingleput reserves, there is marked improvement; in South Arcot, both protection and reproduction are bad.

15. Artificial Reproduction.—The amount spent on plantations, topes and cultural operations is given below:—

—		Area.	Cost during the year.	—		Area.	Cost during the year.
		Acs.	Rs.			Acs.	Rs.
Southern Circle.	Plantation	12,044	25,613	Northern Circle.	Plantation	7,519¼	13,979
	Topes	18,888	4,741		Topes	6,855	2,125
	Other areas	4,203	2,302		Other areas	1,171¼	2,941
	Total ..	35,135	52,656		Total ..	15,546¼	19,045

The amount spent was Rs. 51,701 against Rs. 50,748 in the previous year, and the total area, 50,681 acres against 49,319½; the increase is under "plantation" and "other areas," "topes" remain practically the same, and the chief items are the teak plantations at Nilambúr, the bluegum plantations on the Nílgiris and the casuarina plantations along the coast: the other items are small and the importance of artificial reproduction compared with that of natural is small. In the Southern Circle, casuarina was the chief tree planted, 14 acres in Chingleput, 76 acres in South Arcot, 21 acres in Trichinopoly and 8 acres in South Canara being planted up; cashew-nuts were dibbled in in South Arcot producing 1,630 seedlings and in Tanjore over 55 acres; 5,000 mango, jack, and divi divi were planted out in North Coimbatore in the Bylur plantation, and 20 seers of arnatto seed sown in beds; and 7 acres, out of 50 acres intended, were planted with teak seedlings in South Coimbatore: in Tinnevelly, the reclamation of the Kudurimalai teri proceeded, 150 acres being planted with palmyra nuts, 46 acres with *Acacia planifrons* pods, and 36½ acres with nanal grass. In the Nilambúr plantations, 140 acres were stocked with teak and mahogany, and 10 with bamboo; casualties in another block were also replaced. A pound of mahogany seed of *S. macrophylla*, which is believed to be free from the attacks of the borer than *S. mahogani* was also sown; figures kept for the last 5 years show that the stock had been rather over-estimated, but Mr. Hadfield has remedied this by limiting his thinnings. In the Northern Circle, casuarina was extended in Godávari, 272 acres; Kistna, 10 acres pure and 8 acres mixed with other trees; and Nellore, 100 acres, of which almost the whole was destroyed by a cyclone; in Ganjam, 200 acres were sown with nim, tamarind and *Cassia tora*, and large plantings of Arabian dates are said to have been in progress: mahogany, teak, *Frenela* and *Pinus longifolia* were planted on the hills; and blanks were filled up in particular blocks in other districts. Creeper cutting and the clearing of undergrowth was continued in both circles, with possibly good effect on reproduction; in Coimbatore efforts are being made to eradicate the prickly-pear which takes possession of the fuel and fodder reserves, but the results are costly, coming to Rs. 57 an acre: the plant has already gained a firm footing in the district and will be extremely difficult to get rid of.

16. Exotics.—The appendices to the Conservators' reports show the results of such experiments as have been made in this direction during the year: *dates* germinate readily, but the after casualties are numerous, especially in the wetter Coast districts; off-sets appear to be of stronger constitution than seedlings, but on the other hand are more difficult to obtain. In a small experiment made by Mr. Morgan in North Coimbatore, *carob* grew well, and bore fruit; this is a useful tree and the seeds should be distributed elsewhere. Various species of *Eucalyptus* were tried on the plains, but with the exception of *E. robusta*, all failed, germinating well but dying soon after: *E. robusta* seems to promise well; at slight elevations, *e.g.*, at Palmanér, Wynaad, North Coimbatore and the Pápanásam hills *E. citriodora*, *E. resinifera*, *E. paniculata*, *E. rostrata* do fairly well. *Giant bamboos* continue to do well in Wynaad, Nilambúr and South Canara. *Ipecacuanha* promises well at Nilambúr. *Mahogany* grows well and vigorously in the moister climate. *S. macrophylla* is now being taken up, as one tree, believed to belong to that species, is doing exceptionally well at Nilambúr: the various *rubber* trees grow well, but nothing is said as to their yield: a special experiment is being made in *silk* under the supervision of the Honorable Mr. Garstin, C.S.I.

17. Buildings and Roads.—The amounts spent were as follows:—

—	Northern Circle.		Southern Circle.	
	Actual expenditure.	Revised estimate.	Actual expenditure.	Revised estimate.
	Rs.	Rs.	Rs.	Rs.
Roads	9,752	16,300	17,839	20,000
Buildings	13,422	18,000	17,652	20,000
Other works	826	1,500	446	800
Total ..	24,000	35,800	35,937	40,800

The figures are much the same as last year, but they amount to only about 5 per cent. of the total expenditure, and are not at all sufficient for the proper opening out of the forests; the time of District-officers is, it is true, fully occupied with settlement and other work, and the working season in some districts is short, but more use might perhaps be made of contractors, or of the piece-work system; good roads and rest-houses are so essential to the due development of the larger and more important areas, such as the Anamalais in South Coimbatore, the ghât forests in Tinnevelly, the Nallamallais in Kurnool and the upper taluks in Godávari and Ganjam, that the Board trusts that greater attention will be directed to this particular item of expenditure in future years. In regard to roads, Rs. 6,295 were spent in South Coimbatore, partly on roads for tramways, partly on ½ a mile of timber slip, and partly in making 6 miles of road in combination with the Local Fund Department; Rs. 3,438 were spent in some heavy ghât work in Madura, Rs. 2,185 were spent in Tinnevelly in tracing and cutting 8 miles of bridle-path, Rs. 2,030 were spent in South Arcot on some 4 miles of ghât road, and Rs. 2,024 were spent on the Nílgiris; substantial and useful work was done also in most of the remaining districts. In regard to buildings, the Conservator, Southern Circle, has failed to give the list that was called for in last year's report, and only shows an abstract of them in his form 73-B; this shows 352 buildings, valued at Rs. 49,603; an improvement on last year's figures of 12 buildings, worth Rs. 9,129, but it is not stated what the buildings in each district are; Madura, Tinnevelly and South Malabar appear best provided for. In the Northern Circle the total number and value of completed buildings is No. 41—Rs. 41,764 and of these 29 are rest-houses and 12 range-houses; there is also one head-quarter's bungalow in Kurnool, worth Rs. 11,000, and one at Anantapur, worth Rs. 6,991; the districts best provided are Cuddapah, which has 6 rest-houses and 5 range-houses, and Ganjam, which has 7 rest-houses and 3 range-houses; the progress, which is slow, appears also to be steady, and during the year good work was done in Madura, Rs. 5,295 being spent on one Range-officer's quarters and office, two foresters' quarters and one depôt-keeper's quarters; Kurnool, Rs. 2,514; Tinnevelly, Rs. 2,410; Ganjam, Rs. 2,158; and Kistna, Rs. 2,108: in

next year's report, both Conservators should give lists of completed buildings, district by district, showing cost and material, *i.e.*, whether of stone or of brick or of timber.

In regard to tramways, 641 tons of wood were carried along the six miles of rails laid down in the Srîharikôt forest in Nellore: in Coimbatore four miles of rails, and in North Arcot, two miles were used, but the exact amount of timber carried out in the year is not stated: both Conservators testify to the utility of the tramways, and submit calculations comparing the cost of carriage with that of carriage by carts: the Government of India remarks on last year's report have not been received in time to enable the Conservators to submit calculations in the exact shape required, but the statement prepared by the Conservator, Northern Circle, except that it allows for a very small and wholly insufficient percentage for deterioration, gives the necessary information for his circle, and shows that the cost of carriage by cart is about double that of carriage along rails; this is on the sandy soil and over the easy levels of Srîharikôt: for the Southern Circle, the Conservator refers to a special report on the subject submitted by the Acting Conservator in March last, from which similar information can be extracted and which is added as an appendix to this report; in that the District Forest-officer, Coimbatore, estimates a carriage of 58 cubic feet, at a cost of Rs. 3, along the rails, as against a cost of Rs 9-2-0 by carts, but in this no allowance is made for either interest on outlay or deterioration, and the Acting Conservator, therefore, prepares an estimate for a theoretical year's working of 54,000 cubic feet, which includes 4 per cent. on outlay and 1 per cent. for deterioration, which shows that the cost of carriage by tramway is about two-thirds of that of carriage by cart: this is on the Anamalais. The North Arcot figures also show a large saving in favor of the rails, but this is exclusive of deductions, and it is impossible to remedy the omission from the figures given by the District Forest-officer; the quantities given are so small that an addition of 10 per cent. on outlay would altogether upset them: in next year's report, Conservators should give detailed information in some form similar to that adopted in the Northern Circle report, and should allow 4 per cent. interest on outlay and a percentage deduction for deterioration of plant, calculated according to local conditions, though in no case less than 6 per cent.; under maintenance, too, should be included any special establishment which may be maintained and not merely cost of haulage. As the Conservator points out, the figures given in these early stages are, perhaps, hardly fair to the rails, since money has been wasted through inexperience, and the full power of the tramways is not yet developed. The North Arcot experience is instructive, as showing that a well laid roadway is economical in the long run, and the Conservator suggests the advisability of employing a competent Engineer to this end: sufficient advice and assistance, however, would probably be obtained from the local Public Works Department.

18. YIELD AND WORKING.—The following statement shows the outturn for the year:—

	Timber including sandal-wood	Fuel	Bamboos	Minor produce
	C FT.	C FT	NOS	VALUE IN RUPEES
By Government Agency—				
Southern Circle	182,315	867,532	23,759	30,100
Northern do	121,225½	851,983	108,386	12,566
By purchasers—				
Southern Circle	1,663,868	7,039,783	5,470,344	2,16,950
Northern do	1,547,912	4,469,179	7,056,288	1,53,950
By free grants—				
Southern Circle	6,523	800	21,415	37
Northern do.	15,630	230	13,989	400
Total—				
Southern Circle	1,852,706	7,908,115	5,515,518	2,47,087
Northern do	1,684,767½	5,311,392	7,178,663	1,46,916

In the Southern Circle there was a satisfactory increase, under departmental operations, of 16,000 cubic feet under timber, 356,000 cubic feet under fuel and 4,000 in number under bamboos, showing that the department is making steady progress in

substituting a proper system of cutting for the old seigniorage system. The working out of dead teak in North Malabar, thinning of teak saplings in Nilambúr, extraction of redwood roots in North Arcot and recommencement of sandalwood cuttings in Salem account mainly for the increase under timber. Under fuel, the large demands from the South Indian Railway, 354,168 cubic feet, from the Kolar gold mines, 96,423 cubic feet, and from Cotton companies in Tinnevelly account for the increase. There was a decrease of Rs 37,000 under minor produce, due partly to a bad season, and partly to a falling off in the demand for wild mace in South Canara. The delay in the completion of the tramway in South Coimbatore and the slack demand for teak saplings and redwood affected the sales which were therefore Rs. 33,000 less than in last year. In the Northern Circle, on the contrary, there was a heavy decrease of 140,000 cubic feet under timber, and of 17,000 cubic feet of fuel; bamboos increased almost a half, and minor produce, excluding sandalwood from last year's figures, produced about 4,000 more, and the sales, though the value of bluegum, casuarina and red sanders fell, rose by some Rs. 25,000, but of this Rs. 10,000 was not realised within the year.

The receipts from departmental work were highest in Nellore, Rs. 46,000; North Arcot, Rs. 42,000; South Malabar, Rs. 38,000; South Canara, Rs. 35,000; and the Nilgiris, Rs. 30,000: the value of stock in hand at the end of the year was Rs. 44,918 in the Southern Circle and Rs. 32,476 in the Northern Circle.

The bulk of the receipts came as usual from removals by private agency, the figure being Rs. 6,96,965 for the Southern Circle and Rs. 4,69,363 for the Northern Circle. Here also there was an increase in the Southern Circle of Rs. 61,000 and a decrease in the Northern Circle of Rs. 30,000; the increase in the former is under timber and grazing, due mainly to the removal of higher class timber; bamboos were some 7,13,000 fewer in numbers, but sold for about the same price as in last year, because there was a larger proportion of "split" taken, the seigniorage on which is, of course, higher than it is on unsplit. The Madras Railway takes a large amount of fuel under this head, some 349,180 cubic feet in all going to Railways. Rs. 21,000 arrears of tree rents transferred from land revenue were paid over during the year in South Arcot, but this was counterbalanced by a transfer of Rs. 30,000 the opposite way in Salem: the Conservator thinks this is a mistake and is in correspondence with the Collector about it; the result of the correspondence should be reported.

The decrease in the Northern Circle was chiefly under firewood and came under Railway fuel in Cuddapah and Kurnool due partly to less demand, partly to an attempt to regulate the supply, which has not hitherto been properly checked; the chief revenue-producing districts under private agency were, North Arcot, Rs. 1,32,000; Salem, Rs. 1,28,000; Cuddapah, Rs. 1,14,000; and Kistna, Rs. 92,000: grazing receipts were highest in Kistna and North Coimbatore.

In the form adopted by Government in its review of last year's report, the total yield compares with that of previous years as follows:—

Years	Southern Circle.			Northern Circle		
	Timber and fuel	Bamboos.	Minor produce.	Timber and fuel	Bamboos	Minor produce.
	C FT	NOS.	VALUE IN RUPEES	C FT.	NOS.	VALUE IN RUPEES.
1887-88	7,677,600	Not known	2,60,661	7,775,639	9,087,693	1,24,277
1888-89	9,732,088	6,220,090	2,79,884	8,935,990	4,888,271	1,28,105
1889-90	9,760,821	5,515,518	2,47,087	6,996,159½	7,178,663	1,46,916

The figures for the Northern Circle are not so satisfactory as those for the Southern Circle; the low figures under bamboos for last year is said to be due to a mistake, 11,000 cart-loads in Kurnool being entered only as 11,000 bamboos. The averages as given by Conservators show a satisfactory decrease in cost in the Southern Circle and a rise in value in the Northern Circle, but there are striking differences in some of the figures, *e.g.*, in the Southern Circle, departmentally collected timber cost annas

3-5 and realised annas 9-10 per cubic foot; in the Northern Circle the figures were annas 2-11 and annas 4-9; bamboos cost 2 pies each and sold for annas 1-3 in the Southern Circle, and in the Northern Circle cost 2 pies and sold for 5 pies, and minor produce in the Southern Circle cost annas 15-3 a maund to collect and realised Rs. 2-6-2, and in the Northern Circle cost annas 3-7 and realised annas 7-7: the average receipts under removal by private agency do not show these differences, though the cost is slightly less in the Northern Circle than in the Southern Circle; the *net* profit under private agency is not shown, but it is evidently very much less than that of departmental working, and when the waste caused in removals by private agency also is considered, the balance in favor of departmental agency is so great that the Board trusts its employment will be steadily extended. Free grants were made, as usual, but not to any large extent.

19. FINANCIAL RESULTS.—The following statement shows the financial results of the year:—.

	Receipts.	Expenditure.	
		A.	B.
	Rs.	Rs.	Rs.
Southern Circle	9,51,017	3,85,586	3,21,442
Northern do.	6,06,610	2,18,513	2,39,817
Total ..	15,57,627	6,04,099	5,61,259
	..	11,65,358	
Balance ..	..	3,92,269	

The surplus rose in the Southern Circle to nearly 2½ lakhs, the highest figure on record and some Rs. 88,000 more than the surplus of last year, and in the Northern Circle to Rs. 1,48,280, also the highest figure for the circle, but only some Rs. 6,000 more than last year's. The total surplus was nearly 4 lakhs against the 3 lakhs of last year; this is, of course, extremely satisfactory, but the Board agrees with Colonel Campbell Walker that it would be preferable to invest a far larger proportion of the receipts in roads, buildings, fire-lines, &c., and to increase the efficiency of the staff, than to merely pay it over to general funds as surplus. With an increased staff, of the necessity of which Government approved in its review on last year's report, and about which the Board is shortly about to address Government, it will be possible to spend effectively much larger sums on works of permanent improvement, and the Board trusts to be able to report satisfactorily to this effect next year.

The largest revenue-producing districts were North Arcot, Rs. 1,77,859; Salem, Rs. 1,37,872; Cuddapah, Rs. 1,31,654; South Arcot, Rs. 99,288; and Kistna, Rs. 93,892; Nilgiris and Ganjam show heavy deficits; in the former case due chiefly to expenditure on works of improvement, but in the latter case, falling also under departmental fellings. South Canara, Bellary, Anantapur, South Malabar and Vizagapatam also show deficits, mainly due to expenditure on works of improvement. Considerable sums were spent on such works in North Arcot, Salem, Cuddapah, Madura and the Nilgiris.

In the Southern Circle, the receipts were Rs. 66,017 in excess of the revised estimate and Rs. 52,931 in excess of the receipts of the previous year. The excess was distributed over all the heads of revenue except I (*a*) and (*e*), II (*c*), III and V (*a*). The decrease under I (*a*) occurred chiefly in South Coimbatore and North and South Malabar, and that under I (*e*) chiefly in South Canara. The decrease under other items was small. There was a falling off under I (*b*) in Madura and under I (*d*) in North Arcot and under II (*e*) in Salem. The gross receipts increased in North Arcot under I (*b*), in South Arcot under II (*b*) and (*e*), in Trichinopoly under II (*a*), (*b*) and (*d*) and V (*c*), in Coimbatore under II (*e*), and in Madura under I (*b*) and II (*a*). In Tinnevelly the increase occurred in almost all the items.

In the Northern Circle the receipts fell short of the revised estimate by Rs. 33,390 and of the receipts of the previous year by Rs. 10,310. The decrease occurred chiefly

under I (*b*) and (*d*), II (*a*), (*b*) and (*c*) and V (*c*). The decrease under I (*b*) was chiefly in Nellore and under I (*d*) in Nílgiris; under II (*a*) in Godávari, Kistna, Cuddapah and Kurnool; under II (*d*) in Ganjam, Cuddapah and Kurnool; and under II (*c*) in Kurnool. Under V (*c*) the decrease occurred chiefly in Godávari. The increase under I (*a*) occurred in Cuddapah and Godávari, and under I (*e*) in Nellore: under II (*d*) and (*e*) in Nellore and Cuddapah, and under III in Kurnool.

In the Southern Circle, the expenditure fell short of the revised estimate by Rs. 42,972, and of the actuals of the previous year by Rs. 35,104. The decrease occurred chiefly under A in I (*a*), (*c*), VI (*c*) and VIII (*a*), and under B in I (*a*) and (*c*), II (*b*) and (*c*) and III (*f*). There was a large increase under I (*b*) and VIII (*c*). All the districts showed a surplus balance except North Malabar and South Canara.

In the Northern Circle the expenditure fell short of the revised estimate by Rs. 41,670 and of the actuals of the previous year by Rs. 16,212. The decrease occurred chiefly under A in I (*a*) and (*b*), VI (*a*) and (*c*), VIII (*a*) and (*b*). There was also an increase under B-I (*b*). The deficits occurred in Ganjam and the Nílgiris.

General.

All the districts in the Presidency were inspected by Conservators, except Chingleput, Tanjore and Kurnool; in the Southern Circle five District Forest Offices were inspected by Treasury Deputy Collectors and three by the Examiner of Forest Accounts; in the Northern Circle, four District Forest Offices were inspected by the Treasury Deputy Collectors. Collectors should see that their District Forest Offices are inspected at least once a year by Treasury Deputy Collectors. District Forest-officers acquitted themselves with credit, some of them particularly so, and showed much interest in their work, but there was a considerable amount of misconduct on the part of subordinates; this is perhaps to be expected in these early days, since the pay is low, the work hard, and the temptation great. The Conservator, Southern Circle, cries out against the tendency to increase of office work, and this has undoubtedly to be combated. Range-officers, in particular, must not be allowed to become mere corresponding officers: and correspondence between them and their subordinates should be strongly discouraged: with ordinary sized ranges and subordinates usually within a day's march, there should be very little need for anything more than the monthly returns and the reports of crimes; *mutatis mutandis*, the same remarks apply to District Forest-officers. Two rangers and one forester returned from the Forest School, but only one ranger and one forester were sent; this is a matter that needs greater supervision on the part of Conservators if the supply of certificated men is to be in any way adequate to the requirements of the department. The season was much as usual; there was famine in Ganjam and a storm wave in Nellore.

The report, though received late from the districts, was sent in in print by the Conservators on the 2nd and 16th August 1890 from Northern and Southern Circles respectively and has been carefully prepared by them; in it the Conservators have made free use of abstract instead of detailed forms and propose to extend them, but the lists of reserved forests and lands are, in the present shifting stage of Forest Settlement, so useful as a complete record of settlement up to date, that these, the Board thinks, should be retained as they are, at least for a few years more. The report shows, the Board thinks, continued progress on the part of the department.

(True Copies and Extract.)

(Signed) H. A. SIM,
Acting Secretary.

To the Secretary to Government, Revenue Department,
with two reports, three sketch-maps and the
Southern Circle Conservator's report on tramways.
„ Conservator of Forests, Southern Circle.
„ „ Northern „
Copy to the Collectors of all districts, except Madras.
„ „ Examiner of Forest Accounts.

ORDER—dated 24th November 1890, No. 957, Revenue.

Forest, No. 292.

The above Proceedings of the Board of Revenue contain a very careful review of the operations of the Forest Department during the year 1889-90, as detailed in the administration reports of the two Conservators This review was received in the Government office only seventeen days after the date prescribed for its submission, a result which was due to great punctuality on the part of the Conservators. The preparation of the circle reports within the proper time is, however, rendered difficult by the tardiness of some district officers in submitting their reports, and in future years each Conservator should notice by name any officer, who fails to comply with the rules in this respect.

2. *Area of forests.*—The subjoined table shows the extent of the various classes of forest under the control of the department and the changes that have taken place during the year. At the suggestion of the Conservator, Southern Circle, the Government in G.O., No. 536, dated 10th July 1890, directed the discontinuance of separate returns for leased forests, on the understanding that the fact of the area being held on lease should in each case be clearly noted: this item has accordingly been included under the head of reserved forests in the Southern Circle, but the orders were not received in time for a similar course to be adopted in the Northern Circle.

Class of forests	Area on 31st March 1889.		Added during the year.	Excluded during the year.	Difference.	Area on 31st March 1890.
	As given in the report for 1888-89	As since corrected				
Northern Circle.	SQ. MLS	SQ MLS.	SQ. MLS.	SQ. MLS	SQ MLS	SQ. MLS.
A. Reserved under Act V of 1882 ..	631	631	* 194	..	+ 194	825
B Do under previous orders ..	..	..	13	..	+ 13	§ 13
C. Reserved lands	6,422	6,422	† 552	‡ 303	+ 249	6,671
D. Leased forests	135	135½	..	..	..	135½
E Other forests	23	23	..	..	..	23
Total ..	7,211	7,211½	759	303	+ 456	7,667½
Southern Circle						
Reserved forests	2,817	2,800	119	6	+ 113	2,913
Do. lands	5,281	5,298	337	113	+ 224	5,522
Other forests	‖ 1,646	1,646	98	303	— 205	1,441
Total ..	9,744	9,744	554	422	+ 132	9,876
Grand Total ..	16,955	16,955½	1,313	725	+ 588	17,543½

* The area added is given as 124,280 acres in form 59 A. The Conservator's figure, 195, is thus incorrect This area was transferred from C.

† Of this 397 square miles have been added during the year and 155 square miles represent correction of areas.

‡ Of this 194 square miles were transferred to A and the rest excluded at settlement and also by rectification of area.

§ Omitted in the last year's return.

‖ Includes forests reserved under previous orders and "other forests."

From this statement, which is similar to the one given in the review of last year's administration, it will be seen that the net additions to reserved forests in both circles were again very small, amounting in all to only 307 square miles; this result is very unsatisfactory and will be further noticed under the head of *Settlement.* The additions to reserved lands were trifling and the figures are greatly swelled by the rectification of areas.

3. In paragraph 5 the Board gives a statement to show the area under the control of the department in each district with its percentage to the uncultivated area. It is more instructive to compare the extent of the reserves with the total area at the disposal of Government, as both the Conservators have done, and the following statement shows this proportion for each district. The figures include leased forests, but exclude forests reserved under previous rules :—

—	Area under control of Forest Department.	Percentage to area at disposal of Government.	—	Area under control of Forest Department.	Percentage to area at disposal of Government.
	SQ. MLS.			SQ. MLS.	
Northern Circle.			*Southern Circle.*		
Ganjam	545·61	32·43	Chingleput	178·19	16·21
Vizagapatam	24·15	1·44	North Arcot	952·34	37·95
Godávari	1,020·74	43·83	South Arcot	649·40	20·47
Kistna	684·80	27·55	Salem	1,183·66	32·56
Nellore	597·48	23 55	Trichinopoly	236 55	22·31
Cuddapah	2,018·75	36·35	Tanjore	24·95	3·10
Kurnool	1,715·28	39·16	Coimbatore	2,532·49	72·83
Bellary	380·88	18·46	Madura	562·73	34·58
Anantapur	276·37	10·34	Tinnevelly	589·87	46·81
Nilgiris	368·16	55·44	Malabar	601·26	14·19
			South Canara	1,022·93	31·42
Total ..	7,632·22	29·28	Total ..	8,434·36	32·89
			Grand Total of the two Circles ..	16,066·58	31·07

Of the above areas a comparatively small extent has been finally gazetted as reserved forest, and it is probable that after settlement a considerable portion of the remainder will be excluded. But definite proposals have not yet been formulated for each district, and in several localities much forest still remains uncontrolled. In reviewing the operations of 1886-87, the Government commented on the widely differing areas taken up by the department in the various districts, and directed each Collector to report specially upon the requirements of the country under his charge. The districts, in which an attempt has been made to comply with these orders, are noted in paragraph 6 of the Board's Proceedings, but as remarked in the succeeding paragraph, forest organization is intimately connected with the question of free village forests and pasture grounds, and until recently the policy of Government upon this subject has been undefined. An order * has, however, been issued within the last month discussing in detail the whole of this vexed question, and the lines upon which the selection of forests is in future to proceed, have therein been clearly laid down. It has been decided to abandon altogether the idea of forming village reserves, and the whole area, of which the conservation is desirable, whether for the growth of high timber, for the supply of fuel, or for pasturage, is to be taken up under chapter II of the Act. The following paragraphs of the above-quoted order are given below to facilitate reference :—

* G.O., No. 844, dated 29th October 1890.

"23. The Government is now of opinion that the idea of village forests must be altogether abandoned. There can be little doubt that without constant supervision lands assigned for this purpose would be worked unfairly and would be rapidly denuded of all tree growth. But effective supervision of a vast number of little blocks of forest land dotted over the country would be impossible without an increase of forest establishments so large that its cost would be prohibitive. To preserve the forests then, and to prevent disputes, discontent, and injustice, it is desirable to have the sources of the fuel and fodder supply under Government control, and to minimize expenditure on establishments it is necessary that the reserves should be in fairly large blocks.

"24. One important point is that all Government forests will eventually be formally settled and reserved under the Act. The only objection to this course is that it involves some increased cost, but the advantages of having all rights definitely determined or extinguished are so great as to quite outweigh the extra expenditure. It is, however, most necessary to correct the idea, which prevails somewhat widely, that as soon as a forest is reserved, cattle and men are to be excluded and it is to be worked for the profit of the Government rather than for the benefit of the people. It cannot be too strongly affirmed that the chief object of the reserved forests throughout the greater part of the country is the provision of pasture, small timber, fuel, and leaves for manure or litter. They are to be worked in order to meet the wants of the villagers in these respects and are not to be converted into close preserves for the growth of large timber. The Government cannot lay down any detailed rules for the treatment of the reserves. This must vary with the character of the growth and the circumstances of the locality, but speaking generally the forests in the plains should be worked as fuel and fodder reserves and those on the hills as high forest. Working plans should be drawn out for each and those for the fuel and fodder reserves should contain proposals for throwing open certain areas

to grazing while keeping other portions closed against all heads, and also for felling the fuel departmentally and cutting and storing the grass for sale where such arrangements can be shown to be practicable and most conducive to the convenience and interests of the people. It is the duty of the Conservator to advise the Collector on those matters of detail, and if there is any difference of opinion between these officers, a reference should be made to the Revenue Board whose decision will be final.

"25. The next point for consideration is the area which should be reserved in each district. The Government considers that in the first place all good forest land, however great the extent, should be brought under control. This has already been done in most districts. The Collector should next consider the circumstances of each taluk, which will be the unit for purposes of fuel and fodder reserves. If in any case the area already taken up is not sufficient to furnish the estimated requirements in firewood, leaves and small timber, and to afford grazing for all cattle necessary for agricultural or domestic purposes, more land should, if possible, be brought under management and the natural jungle growth should be supplemented by plantations created for the purpose of fuel supply. Such plantations would be especially beneficial in districts like Bellary and Anantapur and in taluks situated on the coast, for experience has shown that if a large tract of the forest land is carefully enclosed and planted up, a natural growth of grass and shrubs quickly follows the protection afforded by excluding cattle and keeping out fire and the plantation thus becomes both a fuel and fodder reserve."

The adoption of the above policy will in some cases involve the reservation of larger areas than those originally proposed, and it is not possible to estimate with any degree of accuracy the extent of the additions likely to be found necessary. It is probable, however, that the total area of the reserves, as finally constituted, will exceed that now shown as controlled by the department.

4. *Settlement.*—The information required by the Government of India is given in paragraph 8 of the Board's Proceedings, and is reproduced below with slight corrections.

Circle.	Unreserved forest area, 1st April 1889.	Added during year (net).	Total.	Area notified under section 4, 1st April 1889.	Added during year.	Notified under section 16 during year.	Balance notified under section 4 but unsettled.	Total unreserved area on 31st March 1890.
1	2	3	4	5	6	7	8	9
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Northern Circle	6,580½	262	6,842½	6,244	397	194	6,447	6,842½
Southern ,, ...	6,944	19	6,963	2,686	385	* 113	2,958	6,963

* NOTE.—This is the net area after deducting the 6 square miles excluded during the year.

The actual area added to the "Reserved Forests" during the year thus amounted to 194 square miles in the Northern and to 113 in the Southern Circle, the total addition being 307 square miles. As pointed out in previous reports, these figures do not represent the actual work accomplished during the year, for extensive areas have been settled and reported upon, although not finally gazetted. His Excellency the Governor in Council is, however, forced to regard the outturn as extremely disappointing; year by year, hopes have been entertained that the succeeding season would show a great improvement in the progress of settlement, and although it is clear that much work has been done, which merely requires some clerical correction to render it complete, the smallness of the areas annually added to the list of reserved forests is most unsatisfactory. The following table shows the outturn of the last seven years:—

Areas notified as reserved forests under Act V of 1882.

	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	Total.
Northern Circle	..	7	95	373	150	† 6	194	825
Southern ,, ...	683	430	413	312	564	398	113	2,913
Total ..	* 683	437	508	685	714	404	307	3,738

* Constituted under section 25 of the Act.
† This is the net value of the additions; 35 square miles were excluded from reservation in Nellore and 2½ in Nilgiris

From this it will be seen that in spite of the confident anticipations of more speedy progress, the actual outturn of 1889-90 was the smallest recorded since the commencement of operations under the Forest Act. It is indeed worthy of notice, that the total area, gazetted as reserved forest in the Northern Circle, corresponds almost exactly with that treated locally as under reservation prior to the passing of the Act in 1882, and although the figures comprising the latter area were confessedly inaccurate, the actual extent of country, then under control, was probably far in excess of 800 square miles, as all the extensive reserves on the Nallamalais, and many of those on the Nilgiris, were excluded from the calculation. The present returns, however, show that in addition to the 3,738 square miles of forest, for which final notifications have issued, the settlement of 6,400 square miles has been completed, and that for five-sixths of this area reports have been submitted. As the Board points out, the delay in disposing of these notifications was to some extent unavoidable, because the statements of boundaries are frequently of great length and intricacy, and demand careful scrutiny. The report on the progress of work in the Board's office, which was called for in last year's review, is embodied in G.O., No. 135, dated 14th February 1890, and the bulk of the work was then shown to be pending in Collectors' offices. One of the principal causes of delay in the issue of final notifications is the want of good sketch-maps to illustrate the boundaries, and in order to obviate this difficulty, it has recently been proposed to attach a surveyor to the Collector's office in all districts, where the selection of reserves is in progress. The great desideratum of all forest notifications, and especially of one in which a reserve is finally gazetted, is to combine accuracy of definition with clearness of description, and to effect this object a good map of the boundaries is indispensable. The appointment of a number of special surveyors to assist the local Forest officers will, it is hoped, tend to expedite the completion of the settlement, and the Government is glad to learn that four temporary surveyors have already been allotted to the Southern Circle. It is moreover observed with satisfaction, that the meagre results of the year under review will not be repeated in the current year, during which the Board has already passed notifications for 1,270 square miles. All of these have not as yet reached Government; but since the close of the year final notifications have issued for some 850 square miles of country. The outlook is not therefore so gloomy as the returns for 1889-90 would at first sight seem to indicate, but His Excellency the Governor in Council must impress upon all officers concerned the urgent necessity for bringing the work of settlement to a satisfactory and speedy termination.

5. The retention of the special establishment, employed on the duty of Forest settlement, has been sanctioned by the Secretary of State up to the 31st March 1892, subject, however, to the approval of the Government of India. A special report on the work accomplished during the current calendar year, and on that remaining for disposal at its close, has already been called for in G.O., No. 190, dated 10th March 1890.

The total cost of the special Settlement establishment up to 31st March 1890 amounts to Rs. 2,18,706, which gives a rate of Rs. 58 for every square mile finally notified as reserved forest, but no deductions can be drawn from these figures, as they do not include the work done by the ordinary Revenue establishment, and of course do not take into account the extensive areas settled, but not notified.

6. *Demarcation, Survey and Working Plans.*—The Conservator, Northern Circle, has again failed to give the total length of boundary line demarcated during the year, and it is not therefore possible to estimate with any accuracy the average cost per mile for the Presidency. In the Southern Circle the outturn amounted to 1,290 miles at an average cost of Rs. 10-4-11 per mile, as against 1,572 miles demarcated in the previous year, for which the average charge was practically the same. These figures apparently include both preliminary and permanent demarcation, but this point is not clear, and in future reports more definite information must be furnished. A table should be drawn up for each circle to show the length of line demarcated up to, and during, the year in every district, and its total and average cost, the preliminary and permanent work being clearly distinguished. If possible, the work remaining to be done should also be roughly estimated. From the Board's review it appears, that in the Northern Circle 1,500 miles of boundary were finished during the year, exclusive of preliminary work; the total expenditure on demarcation was Rs. 18,251, so that accepting the Board's estimate of outturn as correct, the cost per mile was a little over

Rs. 12 and slightly less than in the preceding year. In neither circle can the work done be considered satisfactory, and from the details given for several districts, it is evident that closer supervision is required in carrying out this important duty. The methods employed appear to differ very materially in the various localities, and the Board, in consultation with the Conservators, should endeavour to lay down some definite rules for the guidance of subordinate officers. In the Board's review of the work done in 1887-88, it was stated that the possibility of adopting some uniform system was under consideration, but no steps have apparently been taken to attain this object. The nature of the country, over which the boundary runs, will of course govern to some extent the methods of demarcation adopted, but it would be well if the principles, on which the work should be carried out, were definitely declared. In this connection the observations made in last year's review should be borne in mind: the views, therein expressed, were approved by the Government of India, with the remark, that "the first object of demarcation is to mark off the boundaries so that they can be easily recognised and be permanently maintained beyond dispute at a small subsequent outlay."

7. The Government of India Survey Party, which is working in the districts of Salem, Madura and Tinnevelly, completed 211 square miles of topographical work. The survey year commences on the 1st September, and the field season extends from that date up to the following March or April. A short account of the operations of the party during the season of 1888-89, and an estimate of its work for 1889-90, are embodied in G O., No. 3583, Mis., dated 11th June 1890, which is printed at the head of this order. The total area of reserved forests topographically surveyed during these two seasons amounts to 380 square miles (not to 480 square miles as given by the Conservator and the Board), and the average cost per square mile was Rs. 285. This outturn is far below the forecast, and the Government trusts that when the difficulties, encountered by Colonel McCullagh at the outset, have been overcome, the work will proceed more rapidly. Departmental surveys were rightly confined within narrow limits, but a Revenue Survey Party was at work upon several reserves in the Northern Circle. The expenditure on departmental surveys for the last two years is shown in the margin. The figure for the Southern Circle includes a charge of Rs. 4,599 incurred in clearing boundaries for the Government of India Survey Party; this should have been debited to *Demarcation*.

—	1888-89	1889-90.
	Rs	Rs
Northern Circle	1,613	3,743
Southern do	5,861	6,083
Total .	7,474	9,826

8. In reviewing the operations of last year, the Government of India remarked upon the importance of working plans, and desired that due prominence might be given to this method of treating the forests. These remarks must be carefully borne in mind, but the Government agrees with the Board that progress in this direction will necessarily be slow. To carry out the work speedily and efficiently, special Working-plan Parties should be formed, and with the Forest Department at its present strength, this is entirely out of the question.

9. *Fire protection.*—The following statement shows the areas protected, and the cost per square mile for the last six years:—

—	1884-85	1885-86	1886-87.	1887-88	1888-89	1889-90
	Area attempted to be protected					
	Sq Mls	Sq Mls	Sq Mls	Sq Mls.	Sq Mls	Sq Mls
Northern Circle	720	728	1,168	1,320	1,667	2,700
Southern do	744	906	1,081	1,250	1,502	1,910
Total ..	1,464	1,634	2,249	2,570	3,169	4,610
	Rate per square mile					
	Rs	Rs	Rs.	Rs	Rs	Rs.
Northern Circle	15	9 10	10 16	10 95	8 53	6 13
Southern do	15 33	12 67	15·54	16 57	13 35	10 57
	15 17	11 08	12 75	13 70	10 81	7 97

The figures must be to some extent inaccurate, until "record maps" can be drawn up for all reserves, and this must await the progress of survey. So far as they go, however, the statistics show a steadily increasing area, within which protection was attempted, and a decrease in the average cost, while in both circles the percentage of success has improved. These results the Government concurs with the Board in regarding as highly satisfactory, and it does not consider that the average charge was at all heavy. The rate for the two circles combined was slightly less than Rs. 8 per square mile, and that for the whole of India, exclusive of Bombay, is given by the Inspector-General of Forests, in his review of Forest Administration for 1887-88, as Rs. 16. In some districts this rate was largely exceeded: the average charge in South Canara was Rs. 52 per square mile, in Salem Rs. 38, in Tinnevelly Rs. 29, and in Malabar Rs. 22, while the rate for the Southern Circle (Rs. 11) was considerably higher than that obtaining in the Northern Circle (Rs. 6). The percentage of failure was again larger in the Northern Circle (7·4) than in the Southern (·7), so that the greater expenditure was accompanied by the better proportion of success. But forests vary so widely in their comparative liability to fire, that any deductions from these statistics must be made with great caution, and it would be unsafe to gauge the quality of the work done entirely by results. In the Ceded Districts, for instance, the hot season is exceptionally long and dry, and it is only natural that there the fires should be far more frequent and injurious, than on the West Coast. In Cuddapah over 80 square miles of forest were burnt, and the Conservator notes that the village headmen are reported not to afford adequate assistance in preventing fires. The forests most liable to attack are, however, situated in thinly populated tracts, and, as remarked last year by the Collector, the village officers and ryots are of the poorest class and cannot be expected to render much help in the *prevention* of fires, though they should, of course, assist in their extinction.

	* Area burnt.	
	1888-89.	1889-90.
	sq. mls	sq mls
Northern Circle	229	200
Southern do	52	14
Total ..	281	214

	† Cases of injury to forests by fire	
	1888-89	1889-90.
Northern Circle .. .	51	16
Southern do	33	34
Total ..	84	50

The policy of concentrating upon the larger reserves the temporary establishment, entertained in the dry season, is one which commends itself to Government, and is believed to be generally adopted. The work done in most districts was on the whole good, but in some the operations should be extended. In Salem, where the area of permanently reserved forests already amounts to 643 square miles, only 48 square miles were specially protected, and the Government is glad to observe that the Conservator has drawn the District Forest Officer's attention to the matter: in Coimbatore and Kurnool also it is evident that more protection is needed. The total area shown as burnt * was less than in the previous year, and the number of cases † of incendiarism brought into court was also less.

10. *Offences.*—There was a slight increase in the total number of new cases reported during the year for both circles combined, while in the Northern Circle there was a considerable diminution. His Excellency in Council observes with pleasure, that the remarks made last year have been attended to, and that the power of compounding offences has been more utilized. The percentage of cases compounded should be calculated upon the total number of cases disposed of during the year, and the acquittals and convictions should be compared with the cases actually taken into court. The following table gives the figures for the last two years :—

—		Cases pending.	New cases	Cases disposed of.	Cases taken into court.	Cases compounded.	Percentage of cases compounded to total disposed of.	Percentage of acquittals to total number of cases taken into court
Northern Circle ..	1888-89 .	125	1,733	1,577	1,150	427	27	27
	1889-90	281	1,355	1,478	967	511	35	30
Southern Circle ..	1888-89 ..	173	2,201	2,167	1,270	897	41	26
	1889-90.	207	2,679	2,568	1,381	1,187	46	28
Total ..	1888-89 .	298	3,934	3,744	2,420	1,324	35	27
	1889 90.	488	4,034	4,046	2,348	1,698	42	29

The Government agrees with the Board in discrediting the evidence as to premeditated defiance of the law on the part of the public, and awaits the report called for in explanation of the gang of 1,000 people, seen shooting on the slopes of the Nilgiris. The number of offences in Trichinopoly (646) is large, and considering the comparatively small extent of forest in this district must be considered excessive: it is noticed that last year the number was 681: by far the larger proportion in each year was compounded, and probably, as the Board remarks, this was the proper course. The Government is not prepared to accept Colonel Campbell Walker's proposition, that the efficiency of protection generally varies in inverse ratio to the number of offences reported, but any tendency to multiply the number of petty cases should be carefully checked. Both Conservators complain that the protective staff is inadequate, and it is clear that in many localities there are numerous offences committed, the authors of which are never detected; the agency employed is, however, acknowledged to be of doubtful honesty, and the evils, pointed out by Mr. Lodge, would not necessarily be obviated by an increase in establishments. Mr. Peet's remark, that, in order to secure better detection, the Madras Forest Act requires to be amended on the lines of the amendment, recently carried out under India Act V of 1890 in the India and Burmah Forest Acts, is not understood. The annual Administration Report is not the place for the discussion of such questions, but the Government observes, that the Madras Act already provides for the control of timber in transit, irrespective of the source from which it comes. The attention of the Cuddapah Collector should be drawn to his District Forest Officer's assertion that "many of the village officers in villages adjoining the forests are the leaders of the trade in stolen timber."

11. *Grazing.*—There was again a considerable rise in the revenue derived from grazing, the total figure for the year under review being 11 per cent. higher than that for 1888-89. There has, indeed, been a steady increase in the receipts since the year 1885-86, when the total revenue derived from this source was less than half a lakh.* This, as the Board points out, is the natural result of the policy of gradually raising the fees to the sanctioned maximum, and, under the system enunciated in the order quoted in paragraph 3 *supra*, it is probable that the receipts from grazing will continue to rise. At the same time, any sudden increase in the burthens imposed upon cattle-owners must be scrupulously avoided, and in this connection the report called for from Salem, regarding the great increase in receipts in that district, should, in due course, be submitted to Government. His Excellency the Governor in Council entirely concurs in the Board's remarks, regarding the policy of auctioning out grazing on reserved areas: the initial object of imposing a charge upon grazing is not to increase the revenue, but to restrict the number of cattle feeding in the reserves, and so to improve the sources, from which future demands for fodder must be met. Colonel Campbell Walker's proposals would practically result in the rack-renting of all reserved areas, suitable for pasturage, and it is clear that any such policy would be most injurious both to the people and to the forests. The Government is not prepared to raise the scale of fees in respect of alien

	Rs.
1883-84	40,138
1884-85	49,237
1885-86	44,363
1886-87	81,203
1887-88	1,05,811
1888-89	1,29,855
1889-90	1,43,845

cattle, but under the new scheme agricultural cattle will be treated more leniently than other animals, the former being in special cases admitted free of charge. The information called for in G.O., No. 314, dated 7th May 1890, regarding the grazing of sheep and goats, has not been furnished; the Conservator, Northern Circle, however, submits a statement in the form prescribed by the Board. This shows that, in many districts, and more especially in Cuddapah, Kistna, Godávari and Nellore, steps have already been taken to preserve forest areas from the damage caused by these animals. The Board's maxim that sheep should be encouraged at the cost of goats, has the entire approval of Government: the special kind of sheep, said by Colonel Campbell Walker to be as injurious as a goat, should, if possible, be treated as one of the species, to which it seems more properly to belong. His Excellency the Governor in Council is glad to learn that the experiments in hay-making in North Arcot were attended with some success.

12. *Reproduction.*—As regards *natural reproduction*, the Government has nothing to add to the Board's remarks. The area of lands on which *artificial reproduction* was undertaken varied very slightly from that under management in the previous year, and the expenditure involved was nearly the same. The following table compares the figures of the two years:—

		Area in Acres		Cost in Rupees during the year	
		On 1st April 1889	On 31st March 1890	1888-89	1889-90
Northern Circle	Plantations	7,144½	7,510½	14,208	13,979
	Topes	6,865	6,855	2,215	2,125
	Cultural operations	774	1,171½	1,511	2,041
	Total ..	14,784½	15,546½	17,934	19,045
Southern Circle	Plantations	11,792	12,044	25,532	25,613
	Topes	18,898	18,888	5 189	4,741
	Cultural operations .. .	3,846	4,203	2,093	2,302
	Total ..	34,536	35,135	32,814	32,656
	Grand Total	49,319½	50,681½	50,748	51,701

It is observed that the Conservator, Southern Circle, complains of the way in which prickly-pear is spreading in some of the Coimbatore reserves, and states that, unless early and drastic measures are undertaken to restrict its growth, the fuel and fodder reserves will eventually be covered with this scourge and become inaccessible to man and beast. The experiments made by the District Forest Officer with the object of eradicating the plant were very costly, and it is not stated whether good results were obtained. An invention, called the "scrub exterminator," has been tried in Australia, it is believed, with some success, and the Government has recently obtained a small quantity for experiment. The Commissioners of Land Revenue, to whom some portion of the chemical has been sent, should arrange for its efficacy being tested in Coimbatore.

13. It was observed by the Government of India in its review of last year's working, that improvement fellings were not made on a sufficiently extensive scale. This matter should be prominently noticed in the next annual reports. The accounts given by the Conservators of the results of the various experiments with exotics have been perused by His Excellency in Council with much interest.

14. *Communications and Buildings.*—The expenditure under this head was slightly in excess of that incurred in previous years.* The outturn was better in the Southern Circle than in the Northern, and the Conservator of the latter admits that the work done was insufficient, but complains that the District Officer's hands were tied with other duties. The Government agrees with the Board in considering that there is ample scope for the judicious

	Rs
* 1886-87	51,719
1887-88	54,854
1888-89	59,841
1889-90	59,937

outlay of money in this direction. The Board's instructions to Conservators to give, with reports of future years, detailed lists of completed buildings are approved: these lists could most conveniently be shown in the form of an appendix. The question raised by the Conservator, Northern Circle, in regard to the Horsleykondah bungalow, should be dealt with in a separate communication.

15. *Tramways.*—Some interesting information on the subject of forest tramways is given in the Northern Circle report, and a note by Mr. Peet, when Acting Conservator, Southern Circle, is also attached as an appendix. The details required by the Government of India cannot, however, be gathered from these reports, and, as the Board points out, it is impossible to make any reliable calculations upon the data furnished. To next year's report both Conservators should attach a statement to show clearly the financial results of working the various tramways. The Government considers that an estimate of 10 per cent. for deterioration would be somewhat over the mark; 6 per cent. would probably be nearer the truth.

16. *Yield and Working.*—The following statement gives, in the same form as that adopted in last year's review, the particulars of the yield of the forests during the last 3 years.

The Board's review of these operations is comprehensive, and the Government has but little to add to it:—

—	1887-88.	1888-89.	1889-90.
	Northern Circle.		
Timber and fuel	C. FT. 7,775,039	C. FT. 8,035,228	C. FT. 6,998,159½
Bamboos and minor produce	RS. 1,81,653	RS. 1,96,248	RS. 1,99,381
	Southern Circle.		
Timber and fuel	C. FT. 7,677,600	C. FT. 9,732,988	C. FT. 9,760,821
Bamboos and minor produce	RS. 3,39,875	RS. 3,56,481	RS. 3,29,516

From this it will be seen, that during the year under review there was in the Northern Circle a considerable falling off in the outturn of timber and fuel, and a rise in that of bamboos and minor produce, while in the Southern Circle there was an increase in the former and a decrease in the latter. The returns for the Southern Circle do not show the value of bamboos given free of charge, and their value has accordingly been entered at the rate of 4 pies per bamboo, this being the price obtained for confiscated produce. As usual, the major portion of operations were performed by private agency, but a considerable amount of work was done by the department: the following table compares the figures of the last three years:—

Year.	Northern Circle.		Southern Circle.	
	Government agency.	Private agency.	Government agency.	Private agency.
	Timber and Fuel.			
	C. FT.	C. FT.	C. FT.	C. FT.
1887-88	1,003,699	6,680,425	515,240	7,107,480
1888-89	1,128,901	7,691,793	677,912	9,046,612
1889-90	973,208½	6,007,091*	1,049,847	8,703,651*
	Bamboos and Minor Produce.			
	RS.	RS.	RS.	RS.
1887-88	13,089	1,63,727	37,244	3,00,041
1888-89	17,008	1,71,337	67,126	2,89,036
1889-90	15,311	1,83,436*	32,068	2,96,965*

There was no collection of timber by departmental agency in Kistna, Nellore and Kurnool, and in many parts of the Southern Circle, and in most districts the outturn

* Includes drift and confiscated.

of Government work was below that of the preceding year. The returns received from departmental work are clearly more profitable than those accruing from private agency, and the former method has much to recommend it; but the Government fears that the department is at present too weak to undertake extensive operations in this direction, and observes, that on previous occasions, both the Board and Conservators have demurred to the idea of adding to the onerous duties of Forest-officers by imposing upon them the work of direct supervision in these matters.

17. *Financial results.*—The financial results of the year's working are compared below with those of the preceding year:—

	Northern Circle.		Southern Circle.		Total.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs
Receipts	6,16,020	6,06,610	8,98,086	9,51,017	15,15,006	15,57,627
Charges	4,74,542	4,58,330	7,42,132	7,07,028	12,16,674	11,65,358
Surplus ..	1,42,378	1,48,280	1,55,954	2,43,989	2,98,332	3,92,269
Increase over last year ..	5,902		88,035		93,937	

The figures show that there was a net surplus of nearly 4 lakhs of rupees, the largest surplus on record, and the Government agrees with the Board in considering that the results are extremely satisfactory. The districts which yielded the largest revenue were North Arcot, Salem and Cuddapah. The net surplus was highest in North Arcot, amounting to Rs. 1,08,413 exclusive of direction charges: Cuddapah came next with Rs. 75,133, and Salem followed with Rs. 74,056. There were deficits in a few districts, the largest occurring in Ganjam and Nilgiris.

18. *General.*—The year seems on the whole to have been a healthy one, though there was a considerable amount of sickness among the officers of the subordinate staff. The touring of the Conservators and their District Forest-officers was satisfactory. The Board's remarks regarding the curtailment of office work have the entire approval of Government. The completion of the work of verifying service registers in the Southern Circle must be expedited.

19. The operations of 1889-90 cannot be considered as altogether satisfactory. The delay in the work of settlement is a matter demanding serious consideration on the part of all officers concerned, and material improvement in other directions cannot be expected, until this work has been completed. His Excellency the Governor in Council, however, agrees with the Board in viewing the reports of the year as evidence of continued progress. The most satisfactory feature is the steady increase of revenue over expenditure, and His Excellency in Council entirely concurs in the Board's opinion that, at any rate for some years to come, it will be advisable to devote a large share of this surplus to developing the efficiency of the department, and to constructing works of improvement. The inadequacy of the superior staff is being again brought to the notice of the Government of India, and the scheme for reorganizing the subordinate establishments should be submitted at an early date.

20. In conclusion, His Excellency the Governor in Council is glad to be able to congratulate the Conservators on the greater accuracy of the returns, which this year accompany their reports, and fully approves of the endeavours that have been made to consolidate the required information. The Government agrees with the Board that, for the present, the list of reserved forests and lands should be repeated annually, but form 62 showing the tracts protected from fire might with advantage be given in abstract.

(True Extract.)

(Signed) C. A. GALTON,
Secretary to Government.

To the Commissioners of Land Revenue.

Copy to the Commissioner of Revenue Settlement, Land Records and Agriculture.

No. 957A.

Copy to the Government of India, Revenue and Agricultural Department.

(Signed) C. A. GALTON,
Secretary to Government.

APPENDIX I.

Letter from A. W. PEET, Esq., Acting Conservator of Forests, Southern Circle, to the Secretary to the Commissioners of Land Revenue, dated Madras, 18th March 1890, No. 3529:—

[*Subject.*—Cost of working of tramways in North Arcot and South Coimbatore.]

[*Reference.*—Board's Proceedings, No. 656, Mis., Forest, dated 17th July 1889.]

I have the honor to state that, as I have partially explained before, the cause of delay in answering this reference was chiefly because the District Forest-officer, South Coimbatore, wished for time to give statistics based on actual working, when the line had been for some time in tolerable order. Even after the Engineer left, the work was by no means complete, and improvements have been made from time to time by altering the line and taking out unnecessary curves, and the derailment difficulty has been almost overcome by the use of a second guard rail on the inner side of the curves. I visited the Anaimalais again in December to see the timber brought up by the tramway and to examine the condition of the line. I will advert to this later in the general remarks. Mr. Porter's report reached me in camp in South Canara only on the 15th February, and as I wished to verify some of the figures and had much local and current work, I could not take up the question carefully till now. The cost of the feed and keep of elephants differs much from my previous estimate and I wished, among other things, to verify this. I think that the sum now entered is a fair average. The increased expense is because I found that the condition of the elephants on the Anaimalais was very poor, as they were fed on germinating paddy only. Their diet was at once altered to boiled rice and ragi, since which time there has been a marked improvement in their condition.

2. As regards the North Arcot tramway statistics, I am not sure whether the information is sufficiently full. I explained personally to the Acting District Forest-officer what was wanted: but his report is far from full. Perhaps, however, they are sufficient to give a general idea of the working.

North Arcot Tramway.

The plant was as follows:—

	Number or quantity.	Rate. £ s. d.	Value. £ s. d.
Portable tramway suitable for animal power (system A, page 12, Fowler's Catalogue of Light Railways, No. 43, part IV) with steel rails, steel corrugated sleepers and wrought steel chairs on full width of sleepers, 14 lb. per yard, 2 feet gauge ...	2 miles.	286 0 0	572 0 0
Crossings	2 „	4 12 6	9 5 0
Weighing machine	1 „	...	23 0 0
Wagon type, J (P. 46) ...	5 „	8 0 0	40 0 0
Do. K („) ...	1 „	...	10 10 0
Tool box	1 „	...	4 10 0
		Total ...	659 5 0

	Rs.	A.	P.
The cost according to the returns furnished was cost of plants	9,859	0	11
Cost of freight	956	8	0
Total ...	10,815	8	11

3. During a period of 14 months there were two clearances of coupes by means of the tramway, one from Virinjipuram plantation to the railway station, a distance of 1¾ miles, and the other from Vikramasi reserve to the railway station, a distance of 1½ miles. In the first case the road for the tram was carefully prepared because there will be occasion to use it again. In the second the road will not be required again, and it was therefore not so carefully prepared. In the one experiment, therefore, we have a larger expenditure on road work and a smaller proportional expenditure on the cost of removal; and in the other we have a smaller expenditure on road work, but a larger proportional expenditure on the cost of removal, because bullocks had to be employed and their labor supplemented by that of men to assist at the curves. The cases were therefore to some extent typical, and I would advert to this type again in the general remarks.

4. In experiment No. I, 1,664½ tons of wood were moved for 1¾ miles at a cost of Rs. 91-1-10. In experiment No. II, 723 tons were moved a distance of 1½ miles at a cost of Rs. 106-14-3. The cost in the first case was at the rate of 10 pies a ton, and in the second at the rate of 2 annas 4 pies for actual transport.

5. The general results were—

	Rs.	A.	P.
Experiment No. I—			
(*a*) Cost of road-making, &c.	415	0	3
(*b*) Repairs to road	36	13	3
Total ...	451	13	6
(*c*) Cost of removing 1,664½ tons for 1¾ miles	91	1	10
(*d*) Cost of removing the same quantity by carts at the rate of 4 annas a ton per mile	728	3	0
Savings by means of transport by tramway	637	1	2
Experiment No. II—			
(*a*) Repairs to plant	77	8	0
(*b*) Cost of road	94	1	0
Total ...	171	9	0
(*c*) Cost of removing 723 tons of wood 1½ miles	106	14	3
(*d*) Cost of removing the same quantity by carts at As. 4 a ton per mile	271	2	0
Savings ...	164	3	9

6. The actual cost of plant, repairs, road-making, and laying down of the line for a period of 14 months was Rs. 11,438-15-5. The savings in transport during that period in the removal of 2,387⅕ tons of wood (an average of 170 tons a month or 5⅔ tons a day) was Rs. 801-4-11.

This is equivalent to a return of 7 pies per cent. on the capital.

7. The outturn of work would be much greater if the line were fixed for a considerable time to one place: but this clearly depends on the nature of the forest and the extent of the operations. During the period in question it was repeatedly shifted in parts. A future working on the roadway prepared from the Virinjipuram plantation will be more economical.

ANAIMALAI TRAMWAY.

8. *South Coimbatore.*—Government asked how it happened that some expenditure was incurred by the District Forest-officer, North Arcot, for the Anaimalai tramway. The District Forest-officer acted merely as a forwarding agent when arranging for the transport of his own tramway.

As an enclosure, the office-note of the District Forest-officer, South Coimbatore, No. 1807, dated 8th January 1890, with the Collector's endorsement, is attached. The appendix to this office-note giving a statement of expenditure up to date is given as appendix II to this letter.

The plant is described in appendix I.

		RS.	A.	P.
9.	The total cost of plant *plus* freight was	42,692	15	3
	Total cost of transport from the slip to the Anaimalais *plus* sundries was	8,655	4	0
	Cost of preparing the road and putting down the line (up to December) was	7,888	14	7
	Total ...	59,237	1	10

10. Mr. Porter's calculation from actual working was that an elephant dragged 58 cubic feet (on an average) a day up the Mount Stuart ghât to the timber slip, a distance of 3¼ miles. We may safely take an elephant's daily load in round numbers at 60 cubic feet.

Mr. Porter further makes a calculation that the saving in the cost of actual working by tramway by an elephant as against the old system of carting by bullocks amounts to Rs. 6-2-0 a day for each elephant for each working day.

11. To put the matter another way, altering the estimates which I gave in a former letter to suit experience better, I would place the annual outturn of the forest at 54,000 cubic feet of timber and the average outturn of work of an elephant at 60 cubic feet per diem for 20 days a month during 9 months. At this estimate it would take 5 elephants to finish the transport.

Allowing for the capture of one or more of the elephants, I would estimate the cost price of each elephant at only Rs. 1,000.

The feed and keep is calculated at a higher rate than before, viz., Rs. 40 a month for each elephant.

We should have then on one side of the account—

	RS
Interest at 5 per cent. on Rs. 59,300 (cost of tramway, &c.) ...	2,965
Do. on Rs. 5,000 (cost of elephants, &c.) ...	250
Feed and keep of 5 elephants for one year	2,400
	5,615

And on the other—

The cost of carting by bullocks according to the old method of 54,000 cubic feet at Rs. 2 a candy of 12½ cubic feet	8,640
Savings ...	3,025

12. *General remarks.*—Even now the figures are merely approximate and indicative, for we are considering the total cost of 7 miles of tramway and considering the working only over a portion which is now utilized. For an absolute comparison it would be fairer to take the cost of only 3½ miles of line as compared with a working over 3¼ miles. However, taking the figures as they stand, I think that there is indication that, notwithstanding the great cost, the experiment will pay financially, for although the cost of laying the line in a hilly country is excessive, yet the savings on a comparison between the new and old styles of transport is also excessive. There are, besides, indirect gains because the work of a season was formerly so problematical as to cause frequent changes in the plan of operations: this was due to the fact that the means of transport was entirely in the hands of the native carting contractor. I still believe that savings can be effected by using ropes round drums as the traction power,

and I have asked Mr. Porter to try the experiment when possible. There is no use dwelling on this point at present in the absence of facts.

13. I have no hesitation in stating the belief that money has been wasted owing to inexperience. The line was first of all laid on the road with as little alterations as possible in the latter: the consequence was that there were an inordinate number of small curves and the general appearance of the construction was very different from what one expected of an iron road of any sort. From the experience now gained I feel convinced that the way should be definitely constructed and laid out before a rail is put down. As a small illustration, I would refer to the typical case in North Arcot where a great part of the cost of construction of a road would have been compensated by a saving in cost of transport.

14. There is another matter, viz., that the cost of repairs would be materially decreased if a road were scientifically laid out in the first instance. Forest-officers have occasionally had considerable practical experience of works of construction, but occasionally they have not, and in the latter case experience is gained often at some cost. For example, I mentioned a visit paid in December to the works. On that occasion there fell a rain almost of cyclonic violence: not less than 10 inches could have fallen in the one burst. The effect was most disastrous, for the line was breached in several places, and some of the bridges carried away. With this abnormal rain some damage would probably have been done to a line constructed by the best of Engineers; but I think that there were indications that part of the damage might have been avoided; for instance, the piers of some bridges were to some extent athwart the waterway and sufficient escape had not been made in other directions.

I mention these facts not as set causes of complaint against Mr. Porter, or his subordinates, for I think that they worked to the best of their knowledge and ability in a very trying piece of country; but in order to draw a moral for future experiments, viz., that I think it would really be a saving of money in the end to obtain in the first instance the assistance of a competent Engineer to mark out and make a road before laying down a tramway in a hilly region: on the level the work is simple enough. The line was partially laid, and the bridges were constructed before I took charge, or I should have urged this course before the work of laying the rails commenced. The benefit gained from the employment of the Engineer was rather neutralized by the fact of the inappropriateness of the road. We have now three officers—Mr. Porter, Mr. Moss, Sub-Assistant, and Mr. Ryan, Forester—at least, who can lay a line practically, and much improvement to the road-way has been effected during the last few months of the year. Mr. Marshall, Sub-Assistant, also did much practical work at the commencement. If it is decided at any future time to lay down another tramway in a hilly region, the services of a Consulting or Superintending Engineer would be of more use than those of a Mechanical Engineer.

15. There is another point on which experience has been gained both in bending rails and in making curves with straight rails. Experience has also been gained in the construction of brakes, for the special brake carriages sent out have proved useless. Some other portions of the plant would not be ordered again.

16. The best price of experience which has been gained, however, is in preventing derailments, and the method of avoiding this has been found to consist in a second rail fitted parallel to the inner rail of the curve. I think that Mr. Moss first put this practically to the proof. It is still thought, however, that the flanges of the wheels should be deeper for hill tramways.

ENCLOSURE.

Office-note from J. H. PORTER, Esq., District Forest-officer, Coimbatore (South), to the Conservator of Forests, Southern Circle (through the Collector of Coimbatore), dated Coimbatore, 8th January 1890, No. 1807.

[*Subject.*—Tramway.]

1. Enclosed is a tabular statement showing the cost of the tramway up to date.

2. The derailment difficulty has been overcome by fitting on all curves a third rail without which, owing to the short radii of the curves and to the shallow flanges of the wheels, it was found absolutely impossible to prevent derailments occurring from time to time.

3. Four miles of line (this does not include one mile of line temporarily put down up the ghât for the purpose of bringing up the plant) are now laid from the top of the new slip to Pillitaniparai where most of the timber is stacked and I do not intend to lay down the remaining two miles this year as we shall not be able to get out the timber already reached during the current working season.

4. It was only at the beginning of November that the experiment of fitting an extra rail on the curves was tried: before this, derailments were constantly occurring and much time was wasted. From October 29th to December 7th, 104 trips were made by the elephants and the amount of timber transported was 6,102 cubic feet, the average distance being 3¼ miles from the depôt to the top of the slip. The average load per elephant per diem was therefore 58 cubic feet or 4·6 candies (12½ cubic feet). The average cost of an elephant is Rs. 40 per mensem (this includes feeding charges and pay of mahout and cavady); an elephant works 20 days a month and the working season lasts on an average from 1st June to the end of February; the actual cost of an elephant per working day is therefore $\frac{40 \times 12}{20 \times 9} = 2\frac{2}{3}$ rupees; to allow for sickness, &c., the cost may be taken at Rs. 3 per working day. The actual cost of removing the average load of 58 cubic feet or 4·6 candies is therefore 3 rupees; the charge previously paid for cutting the same distance was Rs. 2 per candy or Rs 9-2-0 for a load of 4·6 candies. Since the line was first laid down the gradients have been very much improved and a great number of curves taken out: the consequence is that a pair of average bullocks can remove the smaller and medium sized logs, but as the owners charge at the rate of Re. 1 a candy, the employment of Government elephants is more economical. The heaviest load taken by one elephant in a pair of trucks was 108 cubic feet.

5. There is not the slightest doubt that, as further experience is gained, the outturn of work will increase very considerably. Great difficulties had to be overcome and we are only just beginning to work the line regularly. The heavy rain which fell on December 19th and 20th washed away several bridges and about 15 to 20 yards of embankment: the repairs will be completed this week.

Endorsement by the Collector of Coimbatore, dated 28th January 1890.

Forwarded.

This paper has been unnecessarily delayed in this office. Haulage by elephants as against haulage by bullocks, even on the tramway, is economical, even if deterioration of, and money invested in, the elephants is taken into account.

I am told that it is everywhere the custom to work elephants only 20 days in a month and presume there is a reason for this: but work on the tramway is immeasurably easier for the elephant than work on the old road and probably there could be more working days in a month than 20.

When the money sunk in the tramway is taken into consideration, the increase of out-put of timber is, of course, much to be studied.

APPENDIX II.

Cost of plant for the Anaimalai Tramway.

	£	s.	d.
1. Seven miles of portable railway suitable for animal power, system A page 12 with steel rails, steel corrugated sleepers and wrought steel chairs, riveted on full width of sleepers 14 lb. per yard 2 feet gauge at £286 per mile.	2,002	0	0
2. Five crossings at £4-12-6	23	2	6
3. One portable turn-table 3′ diameter	5	0	0
4. One weighing machine 3′ 6″ square	23	0	0
5. Twenty-five wagons, type H.H., at £12	300	0	0
6. Tool box	4	10	0
7. Four eccentric tongs at 16s.	3	4	0
8. Extras	139	3	6
Total ...	2,500	0	0